

**BIG BOSS
BLUESMEN**

**BOB MARGOLIN
& CLIFFORD
ANTONE**

stereophile

ONLINE AUTHORITY:
WWW.STEREOHILE.COM

**AFFORDABLE
EXCELLENCE**

TECHNICS' SB-C700 BOOKSHELF SPEAKER

IN REVIEW

SUPER DIGITAL VALUE
APOGEE'S GROOVE
HEADPHONE AMP

OUT OF LEFT FIELD
DIGITAL FROM AUDIO NOTE
& TOTALDAC

THE PRESTIGIOUS
PARADIGM 95F TOWER SPEAKER

**A
SIBERIAN
SUPER
CARTRIDGE
THE TZAR
DST**



ENGLISH PRECISION
SME'S MODEL 15A
LP PLAYER



JANUARY
2016



**CHORD
ELECTRONICS'**
NEW \$16,000
DAVE DAC » P.15



NEW THIRD GENERATION MRX SERIES



Separates-Quality Performance in a Gutsy, Feature-Rich AV Receiver.

- Dolby Atmos®
- Quad Core Digital Signal Processing
- Industry Leading Room Correction on All Channels
- Full Bandwidth 4K 50/60 Switching
- HDCP 2.2
- Premium 32-bit / 768 kHz Differential-Output D/A Converters

Award-winning Anthem performance and technology, including 11.1 pre-amplifier channels, Advanced Load Monitoring Technology, on-screen display even with 4K60, and much more.

Optimize performance in any room with Anthem Room Correction (ARC™) Technology, which corrects for obstructions like walls and furniture to deliver a more natural response.

Drive up to 11 powered channels, with up to 120 Watts per channel of clean Anthem power.

DTS Play-Fi® Technology lets you stream high-resolution audio over your Wi-Fi network from local sources and the internet.

Dolby Atmos® is the ultimate immersive audio experience.

Experience the breathtaking power and multi-channel flexibility of Anthem's NEW MRX Series of AV Receivers for yourself.



DTS Play-Fi® enables you to stream music from Android, iOS, and PC



A N T H E M

visit anthemAV.com for more info.

11.1 preamplifier channels, Dolby Atmos® and DTS Play-Fi® available on select models.

AS WE SEE IT

BY JOHN ATKINSON

THIS ISSUE: It appears that listeners can hear the difference between CD-quality audio and its hi-rez equivalent.

To the simple, everything appears simple

My spirits sank as I read the comments on *Stereophile's* Facebook page. In the November issue, we had published reviews of UpTone Audio's USB Regen device by Kalman Rubinson, Michael Lavorgna, and myself. Michael and Kal had enthused about the positive effect the USB Regen had made, but I could detect no *measurable* difference. On Facebook, Dan Madden had written, "I think a device like this would need a blind listening test to verify that a listener could hear the difference in a statistically measurable way, in a very high percentage of times."

I have no argument with that statement. But then, Madden went on to say, "Have someone hook up this gizmo on YOUR system, and then have you listen to it with the same song 10 times with and without it connected randomly, and if you get the 'better sound with it' right 9 times out of 10 then I would be convinced that it makes a difference to the sound."

Sounds like a simple test, but designing a blind test that can be used to confirm or deny that a real but small audible difference exists is *far* from simple. In the formal statistical analysis of the test results, you can't prove a negative; you can conclude only that, *under the circumstances of the test*, no difference could be detected. By contrast, a statistically significant positive identification can be regarded as universal proof that a difference is detectable. But that analysis depends on the test examining just one variable—the difference being examined—and, as I have repeatedly discussed in this magazine, the blind-testing methodology itself can be an interfering variable in the test. The fact that the listener is in a different state of mind in a blind test than he or she would be when listening to music becomes a factor. Rigorous blind testing, if it is to produce valid results, thus becomes a lengthy and time-consuming affair using listeners who are experienced and comfortable with the test procedure. Otherwise, the results of the test become randomized, hence meaningless.

In the words of famed mastering engineer Bob Katz: "There is no such thing as a 'casual' blind test. Blind tests are a serious business. Experimenters need training how to perform blind tests well. Blind tests can fail (produce statistically invalid results) if the experimenter neglected one critical detail. Weeks of intensive study are required to learn how to perform blind tests. Then weeks of preparation to create the test. Then weeks of testing to follow."

Some probably think it paradoxical for the editor of a magazine based primarily on the concept of judging audio components by listening to them under sighted conditions to be commenting on blind-testing methodology. However, since the very first blind listening test I took part in, in 1977, organized by the late James Moir for *Hi-Fi News* magazine, I have been involved in well over 100 such tests, as listener, proctor, or organizer. My opinion on their efficacy and how difficult it is to get valid results and not false negatives—*ie*, reporting that no difference could be heard when a small

but real audible difference exists—has been formed as the result of that experience.

There is, in fact, a formal discipline devoted to the design of blind tests, based on recommendations formulated by the International Telecommunications Union in its document ITU-R BS1116-3.² Katz was summarizing the ITU guidelines and their consequences; the context for his comments was a workshop at the 139th Audio Engineering Society Convention,³ held last October in New York, on the audibility of possible improvements in sound quality made by recording and playing back audio with bit depths greater than the CD's 16 and sample rates higher than the CD's 44.1kHz. This is a contentious subject. On the *Stereophile* website forum last summer,⁴ reader David Harper wrote, "Humans do not hear any difference between 16-bit/44.1kHz and any higher bit/sampling rate. This is established fact."

Harper was referring to a 2007 paper by E. Brad Meyer and David R. Moran⁵ that "proved" that there was no sonic advantage to high-resolution audio formats. Their conclusion ran counter to the experience of many recording engineers, academics, and audiophiles, but other than doubts over their methodology and the fact that their source material was of unknown provenance, Meyer and Moran's paper seemed to be the final formal word on the matter.

Until now. The AES workshop in which Bob Katz was taking part also featured presentations by legendary recording engineer George Massenburg (now a Professor at McGill University, in Montreal) and binaural recording specialist Bob Schulein. But it was the first presentation—by Joshua Reiss, of Queen Mary University, in London, and a member of the AES Board of Governors—that caught my attention.

Some 80 papers have now been published on high-resolution audio, about half of which included blind tests. The results of those tests, however, have been mixed, which would seem to confirm Meyer and Moran's findings. However, around 20 of the published tests included sufficient experimental detail and data to allow Dr. Reiss to perform a meta-analysis—literally, an analysis of the analyses. Reiss showed that, although the individual tests had mixed results, the overall result was that trained listeners *could* distinguish between hi-rez recordings and their CD equivalents under blind conditions, and to a high degree of statistical significance. ■

John Atkinson (JAtkinson@enthusiastnetwork.com) was given his first tape recorder 50 years ago. Ever since, he has been fascinated with making and playing recordings of music with the highest-possible quality.

1 See www.stereophile.com/content/uptone-audio-usb-regen.

2 See "Methods for the Subjective Assessment of Small Impairments in Audio Systems": www.itu.int/rec/R-REC-BS.1116/en.

3 See www.stereophile.com/content/art-dudley.

4 See "Perceptual Evaluation of High Resolution Audio": www.aes.org/events/139/workshops/?ID=4687.

5 Meyer, E. Brad, and Moran, David R. "Audibility of a CD-standard A/DA/A Loop Inserted into High-Resolution Audio Playback," *JAES*, September 2007, AES E-library 55 (9) 775-779.

GoldenEar's World-Beating New Triton One Wins Stereophile's 2015 Co-Loudspeaker-of-the Year!

"... the mere fact that it is not unreasonable to compare the sound of the \$4999 (pair) Triton One with the sounds of speakers costing tens of thousands of dollars more per pair says a lot about their level of performance ..." – Robert Deutsch, *Stereophile*

"A Giant-Killer Speaker ... Borderline Class A"

– *Stereophile Magazine*

Winning Stereophile's Loudspeaker-of-the-Year, is perhaps, the highest honor that a loudspeaker can achieve. Plus, this is doubly significant for such an affordable loudspeaker as the One, when you realize that the co-winner sells for \$25,000 a pair, winners often sell for \$50,000, \$100,000, or \$200,000 a pair, and you have to go back to 2007 to find another winner under \$20,000 a pair (at \$18,000, not much under). And, of course, Borderline Class A is a similar, very special achievement, when you realize the average Class A speaker, this year, sold for \$54,000 a pair.

"An absolute marvel ... shames some speakers costing ten times as much."

– Caleb Denison, *Digital Trends*

The Triton One is an evolutionary speaker that builds upon all the advanced technologies that have made the Tritons mega-hits around the world. This new top-of-the-line flagship was engineered to deliver even better dynamics and bass than the extraordinary Triton Two, along with further refinement of all aspects of sonic performance. How well have we succeeded? In the words of HD Living's Dennis Burger, the Triton One delivers, *"... the sort of upper-echelon performance that normally only comes from speakers whose price tags rival a good luxury automobile"*.

Triton One "creates visceral, tangible waves of pure audio bliss"

– Dennis Burger, *HD Living*

Great sound is what it is all about and the Triton Ones are, as HiFi+’s Chris Martens raved, *"jaw droppingly good ... one of the greatest high-end audio bargains of all time with a dazzling array of sonic characteristics that are likely to please (if not stun) the finicky and jaded of audiophiles"*. The Ones were specifically engineered to excel with all types of music as well as movies. Best of all, they offer previously unheard of value, as Brent Butterworth wrote in Sound & Vision, *"I heard a few people saying the Triton One sounded like some \$20,000-and-up high-end towers, but I disagree: I think they sounded better than most of them"*. Darryl Wilkinson summed them up best, *"A Masterpiece ... GoldenEar has fully ushered in the Golden Age of the Loudspeaker"*. Hear them for yourself and discover what all the excitement is about.



Two 5.25" High-Definition Cast-Basket Bass/Midrange Drivers w/ Multi-Vaned Phase Plugs

Optimized Dual-Chamber Upper-Bass/Midrange Enclosure with Angled Rear Walls

High-Velocity Folded Ribbon Tweeter (HVFR) w/ Zobel Network

Open-Cell Polyurethane Foam Damping Pads and Complex Internal Bracing

Three 5" x 9" Quadratic Sub-Bass Drivers in Semi-Line-Source Array

Hybrid Phase-Perfect Electronic/Passive Low Frequency Crossover

Linear-Phase Fully Balanced Crossover Network

Four Inertially-Balanced Quadratic Planar Infrasonic Radiators: Two On Each Side of Cabinet

1600-Watt 56-Bit DSP-Controlled Class D Digital Amplifier

Accelerometer-Optimized Non-Resonant Cabinet w/ Non-Parallel Walls

Triton One Tower
\$2499 ea.

GoldenEar Technology
We Make High-End Affordable!™

www.goldenear.com

PO Box 141, Stevenson, MD 21153 (410) 998-9134

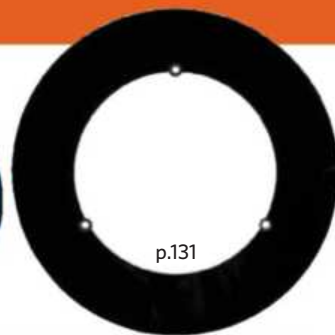
Like us on Facebook!
facebook.com/goldenear

Follow us on Twitter!
twitter.com/goldeneartech



JANUARY 2016

stereophile



FEATURES

55 Rollin' & Tumblin'

Best known by the nickname Steady Rollin' Bob Margolin, the blues guitarist, whose new record *My Road* has just been released, is also something of an audiophile. By Robert Baird.

EQUIPMENT REPORTS

64 Technics Premium Class SB-C700 loudspeaker

by Herb Reichert

77 Paradigm Prestige 95F loudspeaker

by Thomas J. Norton

93 Audio Note DAC 2.1x Signature D/A processor & CDT One/II CD transport

by Art Dudley

107 Apogee Groove USB D/A headphone amplifier

by Jon Iverson

117 Balanced Audio Technology Rex II preamplifier

by Fred Kaplan

FOLLOW-UP

45 AudioQuest JitterBug

by Kalman Rubinson

113 Aurender Flow D/A headphone amplifier

by Jon Iverson

115 AudioQuest JitterBug

by Jon Iverson

131 Audiodesksysteme Gläss vinyl cleaner

by Art Dudley

SEE OUR EXCLUSIVE EQUIPMENT REPORT ARCHIVE AT WWW.STEREOPHILE.COM

Stereophile (USPS #734-970 ISSN: 0585-2544) Vol.39 No.1, January 2016, Issue Number 432. Copyright © 2015 by TEN: The Enthusiast Network Magazines, LLC. All rights reserved. Published monthly by TEN: The Enthusiast Network, LLC., 261 Madison Ave., 6th Floor, New York, NY 10016-2303. Periodicals Postage paid at New York, NY and additional mailing offices. Subscription rates for one year (12 issues) U.S., APO, FPO, and U.S. Possessions \$19.94, Canada \$31.94, Foreign orders add \$24 (including surface mail postage). Payment in advance, U.S. funds only. POSTMASTER: Send all UAA to CFS. (See DMM 707.4.12.5); NON-POSTAL AND MILITARY Facilities: send address corrections to Stereophile, P.O. Box 420235, Palm Coast, FL 32142-0235. Mailing Lists: From time to time we make our subscriber list available to companies that sell goods and services by mail that we believe would be of interest to our readers. If you would rather not receive such mailings, please send your current mailing label, or an exact copy, to: Stereophile, Mail Preference Service, P.O. Box 420235, Palm Coast, FL 32142-0235. Subscription Service: Should you wish to change your address, or order new subscriptions, you can do so by writing to the same address. Printed in the USA.

GoldenEar's Amazing New SuperSub™ XXL is "A Subwoofer to Die For"!

— Sound&Vision Magazine

"What struck me most was not the sub's powerful and deep low frequency output, which I expected, but rather it's unusually high degree of tautness, transient speed and control" — Chris Martens, *The Absolute Sound*



"Sonic bliss ... remarkably powerful ... they kick ass, totally ... down to the infrasonic" — Mark Henninger, *AVS*

GoldenEar's new award-winning SuperSub XXL is an elegantly styled, finely finished and surprisingly compact subwoofer. It can effortlessly generate mega-sub-bass pressure waves of extremely high amplitude, while delivering extraordinarily detailed, accurate and precise low-frequency performance that is both highly impactful and extremely musical. Simply put, it is equally adept at recreating dramatic cinematic sound effects, as well as the subtle musical excellence of Ron Carter, Sting or Yo Yo Ma. To achieve this, we have engineered a unique, patent pending 360 degree dual-plane inertially-balanced active driver and sub-bass radiator topology, and combined it with a very advanced 56 bit DSP controlled 1600 watt Class D digital electronics package originally developed for our award winning Triton One.

"Blew me away ... the perfect balance of power and control, impact and unobtrusiveness, fury and finesse"

— Dennis Burger, *HD Living*

Housed within the gorgeous piano gloss black enclosure are two horizontally-opposed 12" ultra-long-throw active drivers and two vertically-opposed 12-3/4" x 14-1/2" planar infrasonic radiators. This dual-plane, patent-pending dynamic inertial-balancing preserves and focuses all the energy produced by the transducers, in order to more effectively move the air in the room, rather than wasting energy moving the box. It also enables you to hear all the fine subtle details in your recordings. The benefit is a new achievement in state-of-the-art subwoofer performance that, not only "rocks the house", as Big Picture Big Sound's Chris Boylan raved, but is also, "strong, pure and controlled" as Sound&Vision's Mark Fleischman wrote.

"The SuperSub XXL has looks to kill and is built to rock the house when duty calls"

— Sound&Vision

Best of all is GoldenEar's signature combination of high-end performance, superb build quality, gorgeous styling and extraordinary value. Mark Henninger raved, "The SuperSub XXL ups the ante down low". Secrets of Home Theater's Robert Kozel clearly stated, "... this is a bargain for a sub of this performance". Visit your nearest GoldenEar dealer and experience this super sub today.



SuperSub XXL
\$1999 ea.



GoldenEar Technology
We Make High-End Affordable!™

www.goldenear.com

PO Box 141, Stevenson, MD 21153 (410) 998-9134



Like us on Facebook!
facebook.com/goldenear



Follow us on Twitter!
twitter.com/goldeneartech

stereophile



p.15



p.45



p.39



p.21



p.141

COLUMNS

3 As We See It

John Atkinson discusses blind tests and hi-rez audio.

11 Letters

Readers say goodbye to John Marks, comment on recent essays by Art Dudley and Richard Lehnert, and enthuse about Judy Collins and MQA.

Get on your Soapbox! Visit the forums at www.stereophile.com.

15 Industry Update

High-end audio news, including the shows and dealer-sponsored events taking place in January 2016 and February 2016, plus new products from Audio Note, Bang & Olufsen, and Chord.

Want to know more? Go to the "News Desk" at www.stereophile.com for up-to-the-minute info.

21 Analog Corner

Michael Fremer auditions the new Model 15A turntable from England's SME.

29 Listening

Art Dudley plays his music with one of the heaviest modern phono cartridges ever, the Tzar DST.

39 Audio Streams

Michael Lavorgna writes a love poem to the Totaldac d1-tube-mk2 D/A processor.

45 Music in the Round

Kalman Rubinson auditions the JL Audio Fathom f113v2 subwoofer and the SOTm Audio tX-USBhubIn USB hub and sCLK-12.0 Super-Clock clock module.

139 Record Reviews

For January's "Recording of the Month," we have chosen a new recording of Verdi's opera *Aida* featuring tenor Jonas Kaufmann and conducted by Sir Antonio Pappano. In Rock/Pop this month, we have the latest from the Nightowls and Terry Adams. In Jazz, the latest from Amina Figuerova, Benoit Delbecq, and Caroline Davis receive a critical listen.

147 Manufacturers' Comments

TARA Labs, Acoustic Sounds, AudioQuest, SOTm, and JL Audio comment on our reviews of their products.

154 Aural Robert

He was a zealot of the blues and now, happily, the recorded legacy of Clifford Antone is being reissued on LP and CD, writes Robert Baird.



INFORMATION

p.139

152 Audio Mart

150 Manufacturers' Showcase

150 Dealers' Showcase

151 Advertiser Index



Follow Stereophile on Facebook:
www.facebook.com/stereophilemag.





MBL's
Radialstrahler...
legendary
performance
since 1979.



unique high end audio

mbl-northamerica.com
info@mbl-northamerica.com
(561) 735-9300

stereophile

JANUARY 2016

EDITOR JOHN ATKINSON
MUSIC EDITOR ROBERT BAIRD
DEPUTY EDITOR ART DUDLEY
SENIOR CONTRIBUTING EDITORS
MICHAEL FREMER, MICHAEL LAVORGNA,
KALMAN RUBINSON
WEB PRODUCER JON IVERSON

FOUNDER J. GORDON HOLT
COVER PHOTO ERIC SWANSON

ART DIRECTOR JEREMY MOYLER

MANAGING EDITOR RUSTY KURTZ

CONTRIBUTING EDITORS (AUDIO)

JIM AUSTIN, BRIAN DAMKROGER, ROBERT DEUTSCH,
LARRY GREENHILL, JON IVERSON, FRED KAPLAN,
DAVID LANDER, ERICK LICHTHE, PAUL MESSENGER,
HERB REICHERT, MARKUS SAUER, JASON VICTOR SERINUS

CONTRIBUTING EDITORS (MUSIC)

DAVID ADLER, LARRY BIRNBAUM, THOMAS CONRAD,
RICHARD LEHNERT, ROBERT LEVINE, FRED MILLS,
DAVID SOKOL, JOHN SWENSON

ADVERTISING

GENERAL MANAGER KEITH PRAY
(212) 915-4157, KPRAY@ENTHUSIASTNETWORK.COM
ADVERTISING MANAGER ED DIBENEDETTO (212) 915-4153,
EDIBENEDETTO@ENTHUSIASTNETWORK.COM
ADVERTISING MANAGER LAURA J. LOVECCHIO,
LOVECCHIO ASSOCIATES, CENTRAL & WEST COAST,
NATIONAL RETAILERS, CLASSIFIEDS (718) 745-5025,
LAURA_LOVECCHIO@SBCGLOBAL.NET
SALES COORDINATOR ROSEMARIE TORCIVIA
(212) 915-4160, RTORCIVIA@ENTHUSIASTNETWORK.COM
DIGITAL INQUIRIES KEITH PRAY,
KPRAY@ENTHUSIASTNETWORK.COM
MUSIC MANAGER ILKO NECHEV
(212) 490-2079, ILKO@MITCHELLADGROUP.COM

MANUFACTURING & PRODUCTION OPERATIONS

VP, MANUFACTURING & AD OPERATIONS GREG PARNELL
SENIOR DIRECTOR, AD OPERATIONS PAULINE ATWOOD
AD COORDINATOR BRE REKENTHALER
ARCHIVIST THOMAS VOEHRINGER

ENTERTAINMENT GROUP

MANAGEMENT
PRODUCTION DIRECTOR KASEY KELLEY
EDITORIAL DIRECTOR, DIGITAL CHRIS MAURO
FINANCE DIRECTOR ADAM MINER

DIGITAL GROUP

DIGITAL DIRECTOR, ENGINEERING JEFF KIMMEL
SENIOR PRODUCT MANAGER RISHI KUMAR
SENIOR PRODUCT MANAGER MARC BARTELL
CREATIVE DIRECTOR PETER TRACY

TEN: THE ENTHUSIAST NETWORK, LLC

CHAIRMAN PETER ENGLEHART
CHIEF EXECUTIVE OFFICER SCOTT P. DICKEY
EVP, CHIEF FINANCIAL OFFICER BILL SUTMAN
PRESIDENT, AUTOMOTIVE SCOTT BAILEY
EVP, CHIEF CREATIVE OFFICER ALAN ALPANIAN
EVP, SPORTS & ENTERTAINMENT NORB GARRETT
EVP, CHIEF CONTENT OFFICER ANGUS MACKENZIE
EVP, OPERATIONS KEVIN MULLAN
EVP, SALES & MARKETING ERIC SCHWAB
SVP, DIGITAL OPERATIONS DAN BEDNAR
SVP, SALES OPERATIONS MATT BOICE
SVP, FINANCIAL PLANNING MIKE CUMMINGS
SVP, AUTOMOTIVE DIGITAL GEOFF DEFRANCE
VP, EDITORIAL OPERATIONS AMY DIAMOND
SVP, CONTENT STRATEGY, AUTOMOTIVE DAVID FREIBURGER
SVP, DIGITAL, SPORTS & ENTERTAINMENT GREG MORROW
VP, DIGITAL MONETIZATION ELISABETH MURRAY
SVP, MARKETING RYAN PAYNE
EVP, MIND OVER EYE BILL WADSWORTH

CONSUMER MARKETING, ENTHUSIAST MEDIA SUBSCRIPTION COMPANY, INC.

SVP, CIRCULATION TOM SLATER
VP, RETENTION & OPERATIONS FULFILLMENT
DONALD T. ROBINSON III

IMPORTANT STEREOPHILE TELEPHONE NUMBERS

US & CANADA SUBSCRIPTIONS (800) 666-3746,
Stereophile@emailcustomerservice.com
Stereophile, Box 420235, Palm Coast, FL 32142-0235
Please include name, address, and phone number
on any inquiries
INTERNATIONAL SUBSCRIPTIONS (386) 447-6383
EDITORIAL Tel: (212) 915-4156, Fax: (212) 915-4167
JOHN ATKINSON jatkinson@enthusiastnetwork.com
ROBERT BAIRD rbaird@enthusiastnetwork.com
BACK ISSUES, LPS, CDS (888) 237-0955
STEREOPHILE WEBSITE www.stereophile.com

REPRINTS

Contact Wright's Media at (877) 652-5295
(or (281) 419-5725 outside the US and Canada) to
purchase quality custom reprints or e-prints of articles
appearing in this publication.

SUBMISSIONS

Any submissions or contributions from readers shall
be subject to and governed by TEN: The Enthusiast
Network's User Content Submission Terms and
Conditions, which are posted at
<http://www.enthusiastnetwork.com/submissions/>

BACK ISSUES

To order back issues, visit
<https://www.circsource.com/store/storeBackIssues.html>

CANADA POST

Return undeliverable Canadian addresses to: IMEX
Global Solutions, P.O. Box 25542, London, ON N6C 6B2

SUBSCRIBER LIST

Occasionally our subscriber list is made available to
reputable firms offering goods and services we believe
would be of interest to our readers. If you prefer to be
excluded, please send your current address label and a
note requesting to be excluded from these promotions to:
TEN: The Enthusiast Network, LLC, 831 S. Douglas St.,
El Segundo, CA 90245, Attn: Privacy Coordinator.



JERRY RASKIN'S NEEDLEDOCTOR

Established 1979

WWW.NEEDLEDOCTOR.COM

...TRANSPARENT, CONVINCING, AND ACCURATE.

ORTOFON 2M RED PHONO CARTRIDGE ▶

ONLY \$100.00

"The ORTOFON 2M RED raises the bar for budget cartridge performance. You won't find a cartridge in the range that pulls more detail from the groove. Sonically, the 2M Red is transparent, convincing, and accurate."

ortofon 2M



ORTOFON 2M SERIES PHONO CARTRIDGES



ORTOFON 2M BLUE
PHONO CARTRIDGE
\$236



ORTOFON 2M BRONZE
PHONO CARTRIDGE
\$440



ORTOFON 2M BLACK
PHONO CARTRIDGE
\$755



ORTOFON 2M 78
PHONO CARTRIDGE
\$125



ORTOFON 2M MONO
PHONO CARTRIDGE
\$356



Toll Free 800.229.0644 | Phone 612.378.0543 | Fax 612.378.9024
Email info@NeedleDoctor.com | 6006 Excelsior Blvd., St. Louis Park, MN 55416

**WORLD'S LARGEST SELECTION
OF TURNTABLES, CARTRIDGES, AND NEEDLES!**

PASS

*Simply
Breathtaking*



Pass Laboratories, 13395 New Airport Rd. Suite G, Auburn, CA 95602

LETTERS

FEEDBACK TO THE EDITOR

TAKE HEED! Unless marked otherwise, all letters to the magazine and its writers are assumed to be for possible publication. In the spirit of vigorous debate implied by the First Amendment, and unless we are requested not to, we publish correspondents' e-mail addresses.

Hello, Lachlan

I just want to thank Michael Fremer for inspiring me to decide to get into hi-fi. I'm 15 years old and I'm absolutely obsessed with analog systems, especially vinyl ones. I think I'm probably one of the youngest audiophiles you've heard of! Don't let that fool you, though—I know my stuff, and I love tweaking my setup like everyone else.

—Lachlan Cuskelly
lmcuskelly23@gmail.com

Goodbye, John Marks

Editor:

I was despondent to read that John Marks has left *Stereophile* (November, p.19). His "The Fifth Element" was always my favorite column in *Stereophile*. He combined a first-rate intellect, great writing skills, and an encyclopedic knowledge of gear and music in a most engaging fashion. He will be missed. I wish him all the best.

—Henry Kleeman
Lake Forest, IL

Thanks for your kind words, Mr. Kleeman. I am not disappearing, and I am not going into competition with Stereophile, but, to keep abreast of worthwhile new releases, I will eventually have a little blog, www.thetannhausergate.com, where I will make brief recommendations.—John Marks

Furtwängler, not Reiner!

Editor:

I very much enjoyed Art Dudley's "Listening" column in November (p.35). I've always liked Art's writings, but when I read his comments about Fritz Reiner and RCA Living Stereo LPs, I was in (almost) total agreement. (My one exception in terms of artistic value, but not necessarily sound, would be the recordings of Pierre Monteux.)

My excitement grew when I read the list of conductors that Art admires. My favorite is Bernstein, but I have a tremendous affection for Furtwängler. When I read someone else talk about Furtwängler, it's like hearing another voice in the wilderness.

—Gene Mayne
chumpy1@peoplepc.com

Haydn, not Mozart?

Editor:

What a joy it was to open the November issue of *Stereophile* and read Richard

Lehnert's wise, honest words about audiophilia and the idealistic disorders that attend it (p.3). He made my day. Just about everything he wrote rang true, including the bit about satori and our (usually) fruitless attempts to return to Eden. Long after we establish a personal Top Ten or give up searching for the Next Big Thing, we can still make discoveries, still delight in the music.

I must, however, respectfully disagree with Mr. Lehnert regarding the problem of Mozart's perfection. If you consider his operas, especially the trilogy he created with Lorenzo Da Ponte, you will find a grand assortment of flawed, capricious human beings portrayed in all their imperfect glory. Figaro, Susanna, Cherubino, Fiordiligi, Dorabella, Despina, and the rest exhibit such endearing faults that perhaps we should forgive Mozart for writing music so perfectly matched to their characters.

Like Mr. Lehnert, I prefer Haydn's instrumental works to Mozart's, almost without exception. But even after all these years, I can't help submitting to Mozart's mastery of comic opera.

—Lawrence Schenbeck
Newnan, GA

MQA is the real deal

Editor:

Thank you, Jason Victor Serinus, for writing about MQA, and the Judy Collins and Willie Nelson duet that was played for the press at the 2015 Rocky Mountain Audio Fest (see www.stereophile.com/content/mytek-support-mqa). I think that MQA is one of the most important developments in the history of digital audio because it virtually eliminates artifacts that color and cloud even the highest-resolution digital recordings.

However, I am writing mainly to respond to Jason's comment "it was dif-

ficult to listen to the part of the track that was played without conjecturing that the aging voices of both Collins and Nelson had been heavily processed." I was at first perplexed by this comment, because our recording is about as unprocessed as you are likely to find these days, and that was a high production value of ours in making the album. The dynamic range is full, natural, and uncompressed. Vocals were recorded live with the band using tube microphones and minimal signal paths. The mixing was simple and direct, done more like the way records were mixed in 1959 than they are today. Even though the genre is contemporary folk and pop, the album was mastered as though it were a classical recording.

The entire approach was audiophile. This approach has paid off, as supported by the enthralled comments from verified buyers on the beauty of the vocals, the music, and the sound.

Reading Jason's comment again, in an effort to understand what he was driving at, the word "aging" leapt off the screen. Is he saying that Judy, at age 76, and Willie, at age 82, cannot sound as fresh, vital, and authentic as they do on this recording? Perhaps Jason was not at Lincoln Center's Damrosch Park last summer, when Judy Collins gave a free concert to thousands of New Yorkers and received a standing ovation for her crystal-clear voice and dynamic performance. Judy and Willie each do about 100 shows a year to packed houses, and they deliver. I don't know of any "processing" that can create a compelling performance that isn't there to start with. With good technique and good health, singers can perform well into later years!

Getting back to MQA, we have done many blind A/B comparisons at my studio, and MQA wins, hands down, every time. What mystifies me about the technology is the purity of tone and the realism that MQA unlocks from my high-resolution recordings. It has educated my ear to artifacts that still exist, in spite of the best practices with the best equipment, by eliminating them. It is perhaps a "holy grail" of digital audio that now enables creating the best audio I have ever heard.

—Alan Silverman

ARF Mastering

Producer, Judy Collins: *Strangers Again*

LETTERS TO THE EDITOR should be sent as faxes or e-mails only. Fax: (212) 915-4167. E-mail: STletters@sorc.com. Please note: We are unable to answer requests for information about specific products or systems. If you have problems with your subscription, call (800) 666-3746, or e-mail Stereophile@palmcoastd.com, or write to *Stereophile*, P.O. Box 420235, Palm Coast, FL 32142-0235.

VINYL LIVES HERE

ACOUSTIC SOUNDS INC.

SHOP THE BEST AUDIOPHILE MUSIC

THE BEACH BOYS



PRESENTED IN ULTIMATE QUALITY

14 classic Beach Boy titles, mastered by Kevin Gray at Cohearent Audio, cut on 200-gram vinyl, pressed by Quality Record Pressings. Visit acousticsounds.com for details.

PRESSED IN MONO & STEREO LP
ALSO AVAILABLE ON SACD

ROGER WATERS



AMUSED TO DEATH

AAPP 168761

The 2015 2 LP 200-gram vinyl edition, remastered audio completed by longtime Roger Waters / Pink Floyd collaborator and co-producer, James Guthrie, pressed at Quality Record Pressings.

Also available on new 5.1 surround
Hybrid Multichannel SACD remix by
James Guthrie

DUKE ELLINGTON



MASTERPIECES BY ELLINGTON

AAPJ 4118

A historic record - recorded just four years removed from the dawn of the analog tape era! Recorded on an Ampex 200, using 3M-111 magnetic tape running at 15 inches per second. Pressed at Quality Record Pressings.

Also available on Hybrid Mono SACD



GREGG ALLMAN
Laid Back



NILS LOFGREN
Acoustic Live



DAVID OISTRAKH
Bruch: Scottish
Fantasia



ATAULFO ARGENTA
Espanol



WALTER HENDL
Sibelius: Violin Con-
certo in D Minor

CAT STEVENS

TEA FOR THE TILLERMAN



DOUBLE DSD

AAPP9135D128

Easily the most famous Double DSD download brought to market to date! Mastered by George Marino at Sterling Sound. Download files authored direct to native DSD from analog tape by Gus Skinner.

Also available on 45 RPM, 25 1/2 RPM
and Hybrid Stereo SACD.

LYN STANLEY - POTIONS

RATM 3103



Lyn Stanley returns with classic song hits of the 1950s — captivating and imaginative. Produced by renowned jazz pianist/composer Kenny Werner. Recorded and mixed by Al Schmitt; mastered by Bernie Grundman. All songs mixed and mastered on analog tape.

Available on 45 RPM, Hybrid Stereo SACD, Best To Feed! (Two 10.5" Laser-Engraved Discs + Insert + Signed Photo/IEC/15ips/1/4" Tape), Double DSD, Single DSD and Hi-Res PCM Download.

LYN STANLEY - LOST IN ROMANCE

AATM 3101



"You will not hear a more naturally recorded female voice than you'll hear on the record. *Lost in Romance* is one album where the outstanding sound is matched by the music making." Music = 9/11; Sound = 11/11 — Michael Frome, *AnalogPlanet.com*

Available on 45 RPM, Hybrid Stereo SACD, Single DSD and Hi-Res PCM Download!



THE WORLD'S LARGEST SELECTION OF AUDIOPHILE RECORDINGS

ACOUSTICSOUNDS.COM | SUPERHIREZ.COM | 800.716.3553

VINYL LIVES HERE

ACOUSTIC SOUNDS^{INC.}

SHOP THE BEST AUDIOPHILE EQUIPMENT

ROGUE AUDIO



SPHINX V2

HYBRID INTEGRATED AMP
with remote, 100 wpc

Available in Silver and Black

R SPHINX2



PHAROAH

HYBRID INTEGRATED AMP
with remote, 175 wpc

Available in Silver and Black

R PHAROAH

AURALiC



VEGA

DIGITAL AUDIO PROCESSOR

E VEGA



ARIES MINI

WIRELESS STREAMER

E ARIES MW

CHORD ELECTRONICS LIMITED



HUGO MOJO

MOBILE HEADPHONE AMP

E HUGOTTS



HUGO TT

DAC / HEADPHONE AMP

Available in Silver and Black

E HUGOTTS

HIGH OUTPUT



ORTOFON 2M

BLACK
T 2W BLK

HIGH OUTPUT



ORTOFON 2M

BRONZE
T 2W BRZ

LOW OUTPUT



ORTOFON MC

CADENZA BLUE
T CAD BLU

LOW OUTPUT



ORTOFON MC

QUINTET - BRONZE
T QUIN BRZ

LOW OUTPUT



ORTOFON MC

QUINTET - BLACK
T QUIN BLK

ATC SPEAKERS

6" SL 2 WAY LOUDSPEAKERS SCM19 v2

K SCM19 SCH



Available in Satin Cherry and Black

SPIN CLEAN

RECORD CLEANING COMPLETE SYSTEM KIT



Complete System Kit
Includes: Record Washer and Lid, 4 oz. bottle of Record Cleaning Concentrate, 32 oz. bottle of Record Cleaning Concentrate, 2 pair of Washer Brushes MKII, 1 pair of Washer Rollers MKII, 7 washable Drying Cloths and isopropyl alcohol.

E WASHSYS PKG

DR. FEICKERT ANALOGUE

NEXT GENERATION UNIVERSAL PROTRACTOR

Q PND



THE WORLD'S LARGEST SELECTION OF AUDIOPHILE RECORDINGS

ACOUSTICSOUNDS.COM | SUPERHIREZ.COM | 800.716.3553

$$\Sigma \left(\begin{array}{l} \text{future proof +} \\ \text{benchmark performance +} \\ \text{superlative sound} \end{array} \right) = \text{Rossini}$$



Future Proof

We are pioneers who are constantly developing new technologies to improve the quality of reproduced sound. Our unique approach to product design means that Rossini can anticipate and support new formats and innovations in audio.



Benchmark Performance

Every *dCS* product must meet the extraordinarily exacting standards demanded by our military heritage. As a result Rossini delivers levels of consistency and reliability like no other.



Superlative Sound

When you listen to Rossini our state of the art technology, manufacturing effort and rigorous testing combine to create a magical experience that perfectly recreates every last emotional nuance of whatever music you choose to listen to.

When you listen to Rossini from *dCS* you will believe that the world has stopped and there is...

ONLY THE MUSIC

dCS
ONLY THE MUSIC

INDUSTRY UPDATE

AUDIO NEWS & VIEWS

UK: KENT & WEST SUSSEX

Paul Messenger

Two British companies are currently introducing new DAC technologies. The two approaches are very different from each other, and each is radical in its own way.

Chord Electronics has long set benchmarks for hi-tech DACs, using technology based on consultant Robert Watts's field programmable gate arrays (FPGAs). Chord's two most recent DACs, the Digital to Analogue Veritas in Extremis (DAVE, \$16,000 in the US) and the Mojo (\$599), represent the two cost extremes of the marketplace.

Similar to the philosophy first adopted by Chord nearly 20 years ago, the DAVE and Mojo include Watts's digital filtering and noiseshaping algorithms before their data are presented to pulse-array DACs. However, Moore's law—that the capacity of solid-state chips doubles every two years—has held true for decades, and has underpinned the evolution of the Chord Electronics' DACs.

Chord showed their costly, full-spec, AC-powered DAVE DAC in prototype form in May, at the High End show, in Munich. Now in production, the DAVE uses the very latest, LX75 version of Xylex's Spartan 6 FPGA chip, to provide an astonishing 164,000 digital filter taps backed up by 166 separate DSP cores. This chip feeds

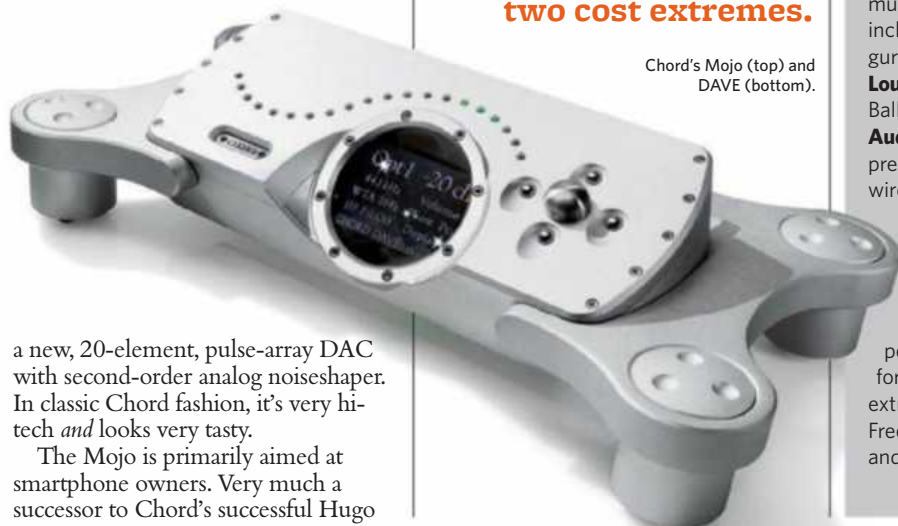
portable DAC-headphone amplifier, it's small (about the size of a pack of playing cards), costs a whole lot less (\$599 *vs* \$2495), and may well outperform the Hugo. (It decodes PCM data up to 768kHz/32-bit and DSD data up to DSD 256.)

Two factors drove the Mojo's design: The latest-generation FPGAs require much lower voltages and use much less power than their predecessors, and the popularity of smartphones has inspired a dramatic increase in the performance of rechargeable, lithium-ion batteries. These changes have made it possible for the Hugo and Mojo to be *portable* high-quality DAC-



Chord's two most recent DACs, the DAVE (\$16,000) and the Mojo (\$599), represent the two cost extremes.

Chord's Mojo (top) and DAVE (bottom).



a new, 20-element, pulse-array DAC with second-order analog noiseshaper. In classic Chord fashion, it's very hi-tech *and* looks very tasty.

The Mojo is primarily aimed at smartphone owners. Very much a successor to Chord's successful Hugo

SUBMISSIONS: Those promoting audio-related seminars, shows, and meetings should e-mail the when, where, and who to JAtkinson@enthusiastnetwork.com at least eight weeks before the month of the event. The deadline for the March 2016 issue is December 20, 2015.

CALENDAR OF INDUSTRY EVENTS

ATTENTION ALL AUDIO SOCIETIES:

We have a page on the *Stereophile* website dedicated solely to you: www.stereophile.com/audiophile-societies. If you'd like to have your audio-society information posted on the site, e-mail Chris Vogel at info@XLinkAudio.com.

Please note that it is inappropriate for a retailer to promote a new product line in "Calendar" unless this is associated with a seminar or similar event.

CALIFORNIA

■ Sunday, January 31, 2-5pm: The **Los Angeles & Orange County Audio Society** will hold its monthly meeting at **The Source Audio/Video Design Group**, in Torrance (3035 Kashiwa Street). Our hosts, Steven and Jason Lord, will demonstrate top-of-the-line equipment in spaces custom-designed to maximize your musical (and visual) enjoyment. Listen to **Boulder, Dan D'Agostino, Denon, Linn, Marantz, MBL, McIntosh, Pearl Evolution, Simaudio Moon, Sonus Faber, Totem Acoustic, Wadia**, and other fine examples of high-end equipment that will allow those attending to make comparisons and/or just enjoy the music. Special industry guests will include David Janszen, electrostatic guru and president of **JansZen Loudspeaker Co., Ltd.**; and Bruce Ball, vice-president of **Questyle Audio Technology**, presenting preamplifiers, headphone amplifiers, wireless solutions, and portable high-resolution players. Jason Lord will also make a special presentation of **Pearl Evolution** loudspeakers. **Eastwind Import** will be on hand to offer personally selected vinyl and CDs for sale. A raffle is planned and an extraordinary lunch will be served. Free parking nearby. Guests, visitors, and new members are invited. For

CONTINUED ON PAGE 19

headphone amps. A Mojo can be fully charged in four hours, then run on that charge for some 10 hours.

The other DAC, an R-2R ladder device from Audio Note UK, takes the totally opposite approach. In the past, Peter Quortrup's company has created some costly DACs [see *Art Dudley's review of the Audio Note DAC 2.1x* on p.93—Ed.]. That situation is likely to continue, but AN's latest initiative could ultimately deliver DACs that produce high-quality sound at more affordable prices.

Audio Note's latest R-2R DAC technology has minimal processing, and was originally designed by Croatian engineer Darko Greguras, who now works under Andy Grove as part of AN UK's team. However, Audio Note found that the sound quality of even the best laser-trimmed resistors commonly used in ladder DACs was unacceptable. After much experimentation, Japanese tantalum-film resistors were chosen. However, these are made by a method of vacuum sputtering not susceptible to laser trimming, so another Croatian engineer has helped AN develop a special temperature-controlled machine that automatically

Audio Note's latest R-2R DAC technology was originally designed by Croatian engineer Darko Greguras.

measures and sorts out the large number of 1%-tolerance resistors on a belt, so that they can be correctly partnered to form a ladder DAC. Unlike Chord Electronics' new D/A processors, which are already in production, Audio Note's are still in prototype form. I am told that the initial results are very positive, but maintaining strictly stable temperatures seems to be a crucial and costly part of the process.

THE NETHERLANDS: AMSTERDAM

Paul Messenger

Fancy making your own LPs? Check out Vinylify (www.vinylify.com), a startup from Dutch venture studio Bored of Advisors that offers a complete vinyl package: an LP pressed with your choice of digital music files (provided the appropriate music rights have been obtained) in a jacket of your

own design.

Vinylify's cutting machines date from the 1980s; the discs are all 10" in diameter, to fit through mail slots and hold roughly 10 minutes of music per side. The cost is €50/\$55 per disc plus shipping (€16.07/\$17.60 for shipping to destinations outside the EU).

DENMARK: STRUER

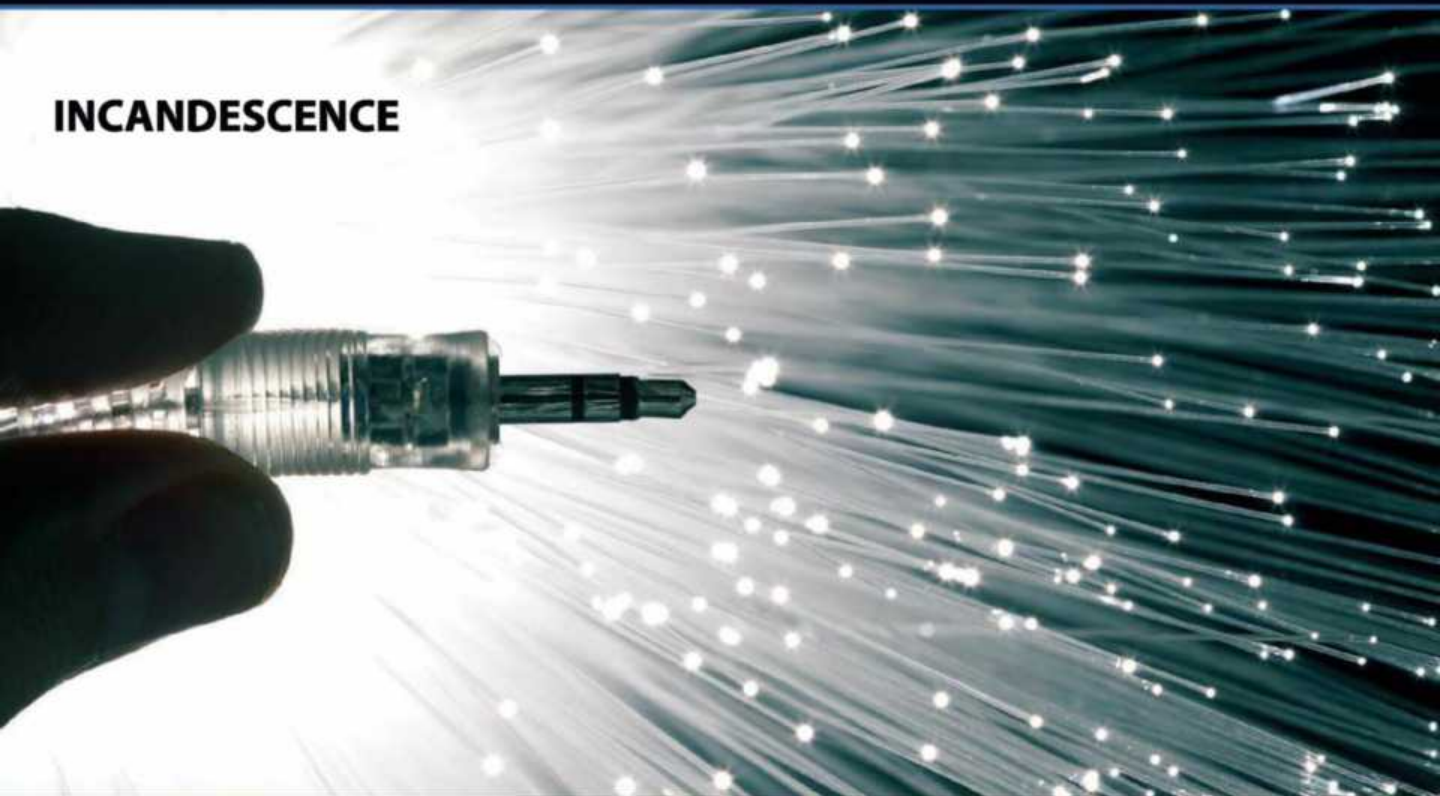
Paul Messenger

Bang & Olufsen, founded in 1925, first manufactured tabletop radios, and since then has become a major innovator in technology and design across a broad range of consumer electronics. B&O is celebrating its 90th birthday with a new loudspeaker, the BeoLab 90, a massively complex and costly model that could well reseat the company at the High End table.

I suspect that the new speaker's price it will be in the region of \$80,000 to \$90,000/pair—a price justified by the vital statistics of even a single BeoLab 90: total weight of 301.4 lbs; no fewer than 18 active drive-units; and total power output of 8200W. Why? The key to the BeoLab 90 is how its multiple powered drivers are used to control and steer the directiv-

THE CABLE COMPANY *Presents*

INCANDESCENCE



Only at The Cable Company



Bang & Olufsen's BeoLab 90 has a radiation pattern that can be varied to suit rooms and occasions.

We want to take you higher...

Try headphones at home before you buy.

That's right. We're the only Hi-End Headphones Lending Library.



Headphone Amps too!

Abyss, Audioquest, Audeze, Fostex, Grado, HiFiMan, Sennheiser, Chord



There is no better way...

to know a headphone's performance, system compatibility, and long term comfort, than with an extended in-home audition.

Based upon the prototype of our Cable Library, we offer the Hi-End Headphone Lending Library.

IN A CLASS BY ITSELF

Revel Concerta2 loudspeakers combine elegant, sophisticated, modern design with the acoustical research and technical advances for which Revel is revered. Discover Affordable, High-End sound with the Concerta2 series.

Learn more at revelspeakers.com

CONCERTA²



Learn more at revelspeakers.com



©2015 HARMAN International Industries, Incorporated. All rights reserved. Revel is a registered trademark of HARMAN International Industries, Incorporated, registered in the United States and/or other countries. Concerta2 is a registered trademark of HARMAN International Industries, Incorporated. Features, specifications and appearance are subject to change without notice.

ity of the complete stereo speaker system through the disposition of the drive-units and the manipulation of their phase relationships.¹ The underlying technique is established practice in stadium sound-reinforcement, but this may be the first time it has been applied to a high-quality domestic hi-fi loudspeaker.

The BeoLab 90's drivers, all made by Scan-Speak, comprise: pointing every which way, seven 1.17" (30mm) Illuminator tweeters and seven 3.35" (86mm) Illuminator midranges, each driven by one of B&O's own 300W, class-D ICEpower amplifiers; three 8.27" (212mm) Discovery woofers; and one front-firing 10.14" (260mm) Revelator woofer. The woofers are housed in the 143-lb base section, and each has its own 1000W amp. (The woofers' sizes were to some extent dictated by the need to move the speaker through doorways.) Although its total power capability is immense, the BeoLab 90 is unlikely to stress the AC supply—all this power is primarily intended to

B&O is celebrating its 90th birthday with a new loudspeaker, the BeoLab 90, a massively complex and costly model that could well reseal the company at the High End table.

supply ample headroom. Each speaker has 45 temperature sensors, to provide protection and avoid thermal compression effects.

Production will be limited, and installation will inevitably be complicated—only a few of B&O's dealers will sell the BeoLab 90. Each pair will be supplied with a measuring microphone, to read and compensate for anomalies in the acoustic of the room in which they're placed, and then offer a number of listening modes selectable via a smartphone app, to give a

remarkable degree of control over the directivity of the radiated sound.

One mode narrows the dispersion to focus the stereo stage on the central listening seat while minimizing room reflections. Another mode could give wider dispersion over a greater area—across the width of a sofa, for example. It's even possible to steer high-quality sound toward a very different part of the room, or to select multiple zones in which the sound will be acceptable—or to play music in “party mode,” when no one is much worried about imaging, and everything operates omnidirectionally.

The BeoLab 90 is an exceptional development. I'm sure some will have doubts about its use of class-D amplification, but it's hard to conceive any other criticism of a device that could well turn out to be a game-changer. It does seem to be a product of B&O's philosophy: “We do all the hard work so you don't have to.” ■

1 See Kalman Rubinson's report on this technology, “Industry Update,” October 2016, pp.16–20.

CONTINUED FROM PAGE 15

more information, visit www.laocas.com or call Bob Levi at (714) 281-5850.

■ Sunday, February 21, 2–5pm: The **Los Angeles & Orange County Audio Society** will hold its monthly meeting at **Scott Walker Audio**, in Anaheim (1215 N. Tustin Avenue). Building on last year's huge success, Scott Walker will host “The Best in Affordable High-End Audio—Part II.” He will have six demonstration rooms showcasing some of the highest-value high-end gear currently available. Complete systems will range from \$1500 to \$15,000. Presenters to be announced.

Eastwind Import will be on hand to offer personally selected LPs and CDs for sale. A raffle is planned and a wonderful lunch will be served. Parking is free. Guests, visitors, and new members are invited. For more information, visit www.laocas.com or call Bob Levi at (714) 281-5850.

FLORIDA

■ Saturday, January 16, 2–5pm: The **Sarasota Audiophile Society** will hold its monthly meeting in the Crestwood Villas Clubhouse (4300 Brittany Lane, Sarasota). Douglas Hurlburt (founder and designer) and David Sckolnik (sales and marketing), of Naples-based **Dynamic Sounds Associates**, will present the latest versions of their Phono II phono preamplifier and Pre

I line-stage preamplifier in a system also featuring products from **Kanso**, **Luminous**, **Spendor**, **Tweek Geek**, and **VPI**. RSVP to Jeff Cantor (SAC) at jeff_cantor_99@yahoo.com; or to David Sckolnik (DSA) at david@dynamicssounds-assoc.com or (386) 873-2388.

MICHIGAN

■ Tuesday, January 12, 5–9pm: **Overture Audio** (2460 W. Stadium Boulevard, Ann Arbor) invites you to a Musical Evening featuring **Linn Products**. Linn's head of technical development, Keith Robertson, and their head of marketing, Angus Laurie, will demonstrate and discuss Linn's cutting-edge Space Optimisation Plus digital signal-processing technology, as well as their newest line of Exakt Intelligent loudspeakers, the Series 5 system. The combination of Linn's Space Optimisation Plus and Series 5 Exakt Intelligent loudspeaker system eliminates distortion, corrects for variations between drive-units, and optimizes audio performance in your room. During our Linn Musical Evening you'll experience the outstanding sound quality delivered by this stunning work of engineering, and be introduced to how to get the most from the digital-media revolution by using Linn's wide range of Digital Streaming products.

Refreshments provided.

MINNESOTA

■ Tuesday, January 19, 7–9pm: This month's **Audio Society of Minnesota** meeting will be held in our newly remodeled and much larger listening room at the Pavek Museum of Broadcasting (3517 Raleigh Avenue, St. Louis Park 55416). The January meeting—our annual bring-and-brag listening session—is one of our most popular each year. Members and guests are encouraged to bring in their vinyl and CDs for an extended listening session on our high-performance audio system. Refreshments will be served, and guests, visitors, and new members are welcome to attend. For more information about this meeting, visit our website: www.audiomn.org.

WASHINGTON, DC/ VIRGINIA/MARYLAND

■ Saturday, January 23, 11am–5pm: **Command Performance** (115 Park Avenue, Suite 2, Falls Church, Virginia) welcomes Kevin Harris of **Devialet** for a special event. Devialet will demonstrate their innovative Expert audiophile systems and groundbreaking Phantom wireless powered speakers. Refreshments will be served. RSVP to (703) 532-7239 or e-mail info@commandav.com.



PrimaLuna[®]

Our Name Is Sound. You Know It.

"PrimaLuna's DiaLogue Premium HP is an integrated amplifier whose sound quality approaches that of pairings of reference Class A preamps and power amps. PrimaLuna has another winner"

— Robert Deutsch, *Stereophile*, December 2014

At CES, see us in rooms
29-315 and 29-316



\$4399

DiaLogue Premium HP Integrated Amplifier.
The finest tube integrated at any price. Any.



All four PrimaLuna components reviewed by *Stereophile* are rated Class A, meaning *the best without regard to cost*.

- ProLogue Premium Integrated \$2399
- DiaLogue Premium Power Amp \$3199 ea / \$6398 pr
- DiaLogue Premium Integrated \$3399
- DiaLogue Premium HP Integrated (pictured) \$4399



PrimaLuna won more 2015 Editor's Choice Awards from *The Absolute Sound* than any other brand.

Go to primaluna-usa.com to get an inside look at our products. You will understand why critics around the world say PrimaLuna makes the best engineered and best built tube components you can buy at any price. info@primaluna-usa.com 909.931.0219

ANALOG CORNER

BY MICHAEL FREMER

THIS ISSUE: Mikey auditions the new turntable from England's SME.

SME Cuts Corners on New Model 15 turntable

In the April 2000 issue of *Stereophile*, I reviewed SME's Model 10, which was an attempt by that storied company to produce an "affordable" turntable.¹ I described the Model 10's \$5500 turntable-only price—about \$7600 in today's dollars—as "stiff." (At the time, the Model 10 cost \$5995 with SME's M10 arm, or \$8250 with their IV.Vi arm.) But 16 years later, the same Model 10 costs only \$5000 (\$7000 with the more recent Model 10 arm, which is superior to the M10).

Today, a turntable price of \$7000, while not exactly cheap, can't be called stiff. What happened between then and now was a vinyl revival beyond anyone's imagining—even mine—and a revitalization of the turntable market that has produced far greater competition at every price point.

For manufacturers of luxury turntables—or any high-priced goods—the challenge is to follow up a flagship product with less expensive versions that don't cheapen the brand, but that approach the top model's standards of technology and build quality. The Model 10 maintained the exceptional build quality of SME's higher-priced models—lower build quality seems not to be part of SME's DNA—but it lost some of the technology, including the unique suspension system incorporated into every other SME turntable model. (That suspension design was first seen in the original wooden mockup made by SME's founder, the late Alistair Robertson-Aikman.) And the Model 10's original M10 arm bore little resemblance to SME's higher-priced tonearm models.

Now comes the Model 15 turntable, priced at \$7399 without arm, or \$9299 with 309 SPD (for Silver Print Detail) tonearm. SME originally intended that the Model 15 would replace the Model 10, but instead has continued to produce both, the 15 now filling the gap between the 10 and the updated Model 20/3 (\$11,999 without arm²). That means SME now offers turntables at \$5499, \$7399, \$11,999, and \$23,199 (the Model 30/2, which actually was more expensive, at \$24,999, when I reviewed it for the March 2003 issue³).

Model 15 particulars

With the Model 10, SME literally cut corners: That compact model was the company's first turntable with a circular chassis. The Model 15, too, has a chassis in the round, but incorporates all of the design and setup features of the more expensive models, including the suspension system omitted from the Model 10.

The Model 15's platter is machined from aluminum alloy and weighs slightly over 10 lbs. Like other SME platters, this one's record-support surface is diamond-turned with a fine



SME's new Model 15 turntable with an 309 SPD tonearm riding rather tall in the saddle.

The challenge is to follow up a flagship product with less expensive versions that don't cheapen the brand.

scroll pattern, which is said to create thousands of tiny fibers that contact the LP's underside. A screw-on reflex clamping system further ensures intimate contact of platter and vinyl.

In combination with that platter, the 15's machined-aluminum subchassis weighs 24 lbs, and is suspended from three towers—as opposed to the *four* used for SME's rectangular turntables—by means of a total of 30 molded O-rings, designed and made for this purpose. The result is a high-mass platform that's well isolated from both ground-borne vibrations and from the motor, which sits on the stationary chassis, below.

A cup of viscous fluid at the center of the chassis damps the platter-speed fluctuations that can happen when the rotation of the platter—even one as well-balanced as this one—creates a rocking “porch glider” motion of the subchassis, relative to the fixed motor pulley. An O-ring stretched between the bottom of the subchassis and the chassis below provides additional stability.

A sealed bearing housing fitted with sintered bronze bushings of reportedly generous size supports the 3/4"-diameter main spindle, machined from high-chrome tool steel, which supports the platter.

The 15's three-phase, brushless inductance motor uses neodymium magnets and three integrated Hall-effect position sensors, and is driven by a microprocessor-based controller housed in the turntable's outboard power supply. The platter can spin at 33 1/3, 45, and 78rpm, each speed adjustable in increments of ±0.1%.

SME Model 309 SPD tonearm

Like the Model 15 turntable, the Model 309 SPD tonearm

1 See www.stereophile.com/turntables/376/index.html.

2 I reviewed the updated Model 20/3 in 2013. See www.analogplanet.com/content/sme-model-203-turntable-latest-variation-long-running-theme.

3 See www.stereophile.com/turntables/796/index.html.

is a new variant on an old theme. The arm tube is made from a single piece of magnesium and has internal constrained-layer damping. A detachable cast-magnesium headshell has a new type of coupling that, SME claims, permits the rapid swapping in and out of cartridges without compromising overall arm rigidity.

At the arm's pivot, a said-to-be massive yoke holds a stainless-steel cross shaft that rides on precision ball bearings in 10mm races; according to SME, this highly rigid assembly allows the bearings to be critically adjusted before the tonearm tube is fitted. Inside the 23mm-diameter steel pillar, a stainless steel bearing shaft rides in two widely spaced 17mm-race ball bearings. The 309 SPD's spring-and-filament antiskating system is set with a calibrated dial that includes a positive Off position.

Once installed, most tonearms exhibit a fixed distance from their pivot to the platter's spindle, and their headshells have adjustment slots to accommodate a range of stylus-to-cartridge-mount dimensions. SME's system takes the opposite approach: The headshell offers the cartridge a

single fixed mounting position, while the pivot-to-spindle distance can be adjusted via a tonearm mount that moves forward or backward along a sliding track, after which it's locked tightly in place. Because the cartridge's position relative to the arm pivot is fixed, you can first set the vertical tracking force (VTF), which will remain constant as you adjust overhang. The underslung, locking tonearm counterweight, made of a tungsten alloy, slides on a two-point damped suspension.

The 309 SPD's pivot-to-spindle distance is specified as 215.35mm; add to this a specified overhang of 16.97mm and you have an overall effective length of 232.32mm: As its name implies, the 309 SPD is a 9" tonearm.

Setup: easy if you know the drill

The SME Model 15 arrives in need of assembly and lubrication. Place it where you want it, choose ball footers of rubber or metal (both are provided),



High-precision Swiss-style machining at SME (top) and machining a platter (right).

remove the two transit screws, loosen the screws that hold the platter in place, fill the bearing with oil (also provided), unlock each suspension tower, adjust the height of the subchassis using the supplied gauge, and you're almost ready to go.

Now all you need do is unscrew the motor holddown, place the platter over the spindle, attach the motor controller to the turntable, plug it in, and calibrate the speed. This can all be done

elusive disc

A Trusted Name Since 1989!

elusivedisc.com
For all your Hi-Fi needs!

What you can expect from us:

- Expert Cartridge Installation & Set Up.
- Excellent Customer Service.
- Speedy & Safe Delivery.
- Expert Help & Advice.



Graham Phantom Elite & Phantom III Tonearms
Latest Evolution of the Multi-Award Winning Arm!



Clearaudio Concept Turntable & Money-Saving Packages
Combos & All Clearaudio Tables Available!



VPI NEW Prime & Scout Turntables
All VPI Tables, Arms & Dust Covers Available!



Buy the M2Tech Young PCM/DXD/DSD 128
DAC Preamp & get a FREE Van Der Graaf
4-Device Low Noise Sequential Power Supply!



Music Hall USB-1 & MMF Series Turntables
All Music Hall Tables, Arms & Accessories Available!



The Model 15 incorporates the suspension system omitted from the Model 10.

longer hear—a compulsion shared by my new friend, 99-year-old Norman C. Pickering. Yes, *that* Pickering!⁴

The Model 15 is easily SME's most graceful-looking turntable. Making the plinth circular, and having three regularly spaced suspension towers instead of one at each of four corners of a rectangular plinth, produce a far more elegant appearance, and that frontmost tower adds visual drama. And SME's aesthetic of matte black is now so far out of style it's back in. I didn't try it, but I imagine that mounting a Kuzma 4Point arm on the 15 would make one powerful-looking record player—one that analog devotee Vladimir Putin would probably admire (though not to the same degree as Medvedev).

quickly and precisely, especially so if you've ever installed one of the bigger SME 'tables.

Setting up the 309 SPD tonearm is equally easy, especially if you're familiar with SME's Series IV or V arms. Setting overhang, VTF, vertical tracking angle (VTA), stylus rake angle (SRA), and antiskating are particularly easy, though adjusting SRA on the fly isn't possible—or really necessary, in my opinion, if you use a digital microscope and set it at 92°. Connect the supplied DIN-to-RCA cable or use your favorite, and *now* you're ready to spin vinyl until you can no

Like other SME turntables, the Model 15 is an heirloom product, designed and built to last many lifetimes. A few years ago, after attending the Munich High End show, I visited SME's factory in Steyning, in West Sussex, and witnessed the Swiss-like way they make things. It was impressive in every way. Other companies apparently agree, which is why SME does a great deal of contract work—although most of the machining they do is for their own products.

As you'd expect of a precision-made product, the Model 15 was an absolute pleasure to use. Both the 'table and the 309 SPD arm had an admirable *feel*. The platter started and reached speed quickly. The suspension worked as advertised: When I tapped the top of the Harmonic Resolution Systems base on which the SME sat, nothing got through to a stylus sitting in the groove of a stationary LP. When I tapped the SME's own chassis, same result.

SME 309 SPD tonearm: problems

Though the design of the 309 SPD—

⁴ You can meet Norman C. Pickering (please do!) at www.analogplanet.com/content/guess-what-company-norman-pickering-started.



Lyra MC Cartridges



Cartridge Man, Koetsu & Shelter Cartridges



NEW STAX! L500 & L700 Headphones & 353X Amp



AKG, Audeze, Audioquest, Grado & STAX Headphones & Headphone Amps



Clearaudio MM & MC Cartridges



Hana & VAS MC Cartridges

MUST HAVE GEAR & ACCESSORIES!

Cartridge Trade-In & Package Pricing Available!



TEAC & AudioQuest DragonFly USB DACs



Audience & AudioPrism Power Conditioning



SoundSmith Moving Iron Cartridges



Transfiguration, Grado & Air Tight Cartridges



Cayin & Sutherland Amps & Phono Stages



VPI, Spin Clean, Nitty Gritty & Audio Desk Systeme Record Cleaners & Money Saving Packages!

elusivedisc.com

Call Today! **800-782-3472**

fax: 765-608-5341 Info: 765-608-5340 • 4020 frontage rd anderson, in 46013 • sales@elusivedisc.com • m-f 9-6 sat 11-3 est



BLUESOUND IS THE SOUND
OF YOUR SATURDAY MORNING
PLAYLIST, AND NO PLANS.



BLUESOUND IS THE PREMIUM WIRELESS HIGH RESOLUTION MULTI-ROOM HIFI SYSTEM
DISCOVER LIVING HIFI AND THE ALL-NEW GEN 2 PRODUCT FAMILY AT **BLUESOUND.COM**

and that of SME's entire line of tonearms—has been refined over the years, it remains essentially unchanged from the company's first Series 300 tonearms of the late 1980s: After the cartridge pins themselves, between the headshell's cartridge-pin clips and the cable that goes to the phono preamp, there are three breaks in the signal path: an additional set of pins, at the back of the headshell; the connection between the headshell and armtube; and the connection between the DIN socket at the base of the tonearm pillar and the DIN-to-RCA-plug phono cable. Obviously, given a cartridge's minuscule output voltage, the fewer breaks, the better. Yet SME remains committed to this arrangement—though other manufacturers have found ways around it while still offering headshells that are easily inserted and removed.

Along with creating an additional break in the signal path, SME's set of protruding pins at the back of the headshell creates another problem: Once you've installed your cartridge, the small distance between the cartridge's pins and the headshell's pins can make it difficult to connect one set to the other using the supplied, clip-terminated wires. Some longer cartridges (eg. Koetsus) may not fit at all because the pin distance is *too* small—or nonexistent.

In addition, since the headshell isn't slotted, you can't twist the cartridge in it to adjust the cantilever's zenith angle. If your cartridge hasn't been perfectly manufactured in that parameter, you're out of luck. On the other hand, the 309 SPD's detachable headshell does have enough play to permit small adjustments in azimuth angle—something the one-piece armtubes of SME's Series IV and Series V arms don't allow.

Those complaints aside, if there's a better-made tonearm for \$1900—the difference in price between the Model 15 with arm and without—or one that even comes close, I've yet to encounter it.

Put it all together and . . .

Because I reviewed the Model 15 turntable and 309 SPD tonearm as a package—officially referred to as the SME Model 15A—I can't comment on the individual sound of either one. But I figure most buyers will opt for the \$9299 package and be done, at least in the short- to mid-term. Face it:

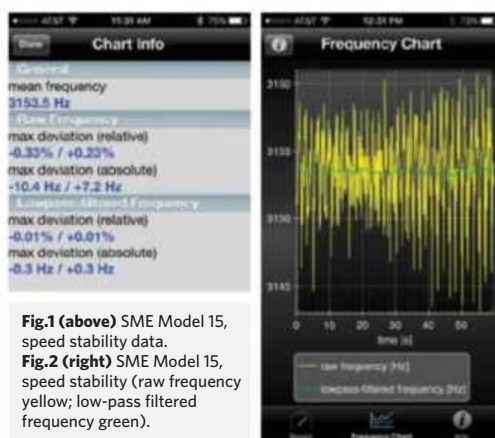


Fig.1 (above) SME Model 15, speed stability data.

Fig.2 (right) SME Model 15, speed stability (raw frequency yellow; low-pass filtered frequency green).

Once you get into analog, the desire is strong to continually upgrade and enhance your experience. Some would say that's an indication of its inherent imperfection—but who cares what they think?

Obviously, given the 15's speed control, I easily got its platter spin at precisely 33 $\frac{1}{3}$, 45, and 78rpm. Dr. Feickert Analogue's PlatterSpeed app showed that the 15 spun with $\pm 0.01\%$ relative and $\pm 0.3\%$ maximum absolute deviations (figs.1 & 2, with the green trace low-pass filtered to remove record wow). Those are truly excellent numbers, and should give you some idea of just how rock-steady this turntable sounded.

I used a range of cartridges in the 309 SPD, including the Lyra Etna, the Miyajima Labs Madake, the Ortofon A95, and the Fuuga, the last sounding as magical on top as it had in the Graham Engineering Elite arm on the TechDAS Air Force Two 'table. From top to bottom, the Fuuga has something very special going on: If you can afford to have a few top-tier cartridges lying around, you'd do well to have a Fuuga (\$8950).

If I've had any criticism of SME's house sound over the years, it's been that it's somewhat overdamped and thick. Newer turntables from other companies seem more agile in the low end—while still producing good deep-bass extension—and produce a more airy and open top end without added brightness. That's not to say that the SME's top model, the 30/2, is not in the very top echelon of turntables. I'd just be sure to pair it with an open- and extended-sounding cartridge, not one with an overly burnished top, or an excessive bottom end, or a lower-midbass bump.

While the Model 15 with 309 SPD

wasn't the last word in bottom-end extension and grip, its bass performance was nimbler, and its top end airier and more open, than those of the bigger and costlier SMEs, though those have a weight and gravitas to their sound that the 15 lacked.

The Fuuga-309 SPD-Model 15 combination produced creamy magic from a new reissue of the perennial Jennifer Warnes favorite, *Famous Blue Raincoat*, made from the 30ips analog mas-

ter-tape mixdown of this multitrack digital recording (LP, Cisco/Impex IMP8301). Yes, this recording's sonic fingerprint has "digital" written all over it—or, at the very least, the cool glaze and studio drapings of early-1990s sonic fashion, analog or digital—but, as reproduced by the Fuuga-SME combo, this new remastering had a refreshingly full richness of vocal body and texture that seems missing from previous editions of this album, which tacked an edge onto Warnes's voice. Here, when she belts and lets it all out—which she does a lot—she never sounds thin and stretched.

Of course, when I played this record on the far more expensive combo of Continuum Audio Labs Caliburn turntable, Swedish Analog Technologies tonearm, and Lyra Atlas cartridge (\$237,500 total, including the Caliburn's stand), Vinnie Colaiuta's kick drum had noticeably more solidity, extension, and wallop; overall depth and, especially, dynamic contrasts increased; and the entire aural picture became more solid, more firmly embedded in space. On the other hand, this system's more analytical sound brought forward and separated out some of the electronic processing on Warnes's voice, which on occasion became distracting.

But: So tonally well balanced and so rhythmically snappy was the overall sound of the Fuuga-SME rig that I kept hearing myself say, "I could live with this." In "Song of Bernadette," Bill Ginn's string arrangement and piano had never sounded so rich and natural—the result of both the record player and this superb remastering.

Properly designed suspended turntables tend to produce very "black" backgrounds. The Model 15 managed that well, in addition to doing a good job of suppressing impulse-type noises.



INVOLVING
NATURALLY CLEAR
SPACIOUS AND AIRY
TONALLY SUBSTANTIAL
OPEN, ARTICULATE, CORRECT
CLEAR, PHYSICAL AND PRESENT
BELIEVABLE SENSES OF BODY AND BITE
CLEARER SENSE OF THE PERFORMING SPACE
NEVER, EVER BRIGHT: THEY WERE JUST RIGHT
COMMUNICATED THE SENSE OF STRUCTURE AND FLOW
ALL THE MORE DESERVING OF ITS STATUS AS A REFERENCE
PRICE QUITE REASONABLE FOR ALL THE SP100R2 HAS TO OFFER
SURPRISINGLY CONSISTENT
EXTREMELY ACCOMPLISHED
SUPERB
AWESOME
SCREAMINGLY, TEARILY GOOD
JUST AS RECOMMENDABLE, IF NOT MORE SO
A STRONGER RECOMMENDATION DOES NOT EXIST

MERRY CHRISTMAS FROM SPENDOR

Above adjectives all taken from Stereophile's review of Spondor SP100R2.

It's time for Spondor.

SPENDOR

Brooks Berdan
Los Angeles, CA
626-359-9131

Gene Rubin Audio
Ventura, CA
805-340-2270

Stereotypes Audio
Portland, OR
503-280-0910

Sound by Singer
New York, NY
212-924-8600

Audio Perfection
Minneapolis, MN
612-866-0083

Wilson Audio
New Orleans, LA
504-888-8851

A recent recording of Stravinsky's own *piano four hands* arrangements of his *Petrouchka* and *The Rite of Spring*, performed by the husband-and-wife duo of Gil Garburg and Sivan Silver (2 LPs, Berlin Classics 0300669BC),⁵ demonstrated both how well high-resolution digital recordings (this one is 24-bit) transferred to vinyl can sound, and how well the combo of Model 15 and 309 SPD could sound playing them.

The image of their piano was ultra-stable, three-dimensional, and tonally seamless from top to bottom. These are not the easiest LPs to track, but each of the cartridges I tried in the 309 SPD rendered the piano without breakup, even in the most difficult and congested passages. The *pianissimo* passages were delicately drawn, convincingly emerging from the depths of aural blackness. The personality of each cartridge emerged unscathed and without surprises, or even a hint of interference from tonearm and/or 'table, which performed as an essentially neutral combination that committed, at worst, acts of omission apparent only in comparison to a far more expensive and sophisticated analog rig.

Jazz singer Johnny Hartman's *Once in Every Life* (LP, Beehive BH 7012) was recorded in 1980, not long before his death, in 1983. Here he was backed by such greats as Frank Wess on flute and tenor sax, Joe Wilder on trumpet and flugelhorn, and Billy Taylor on piano. The album has been getting a lot of play in my system, both for its impeccable sound and the suave, relaxed performances. As well as any record I played, it made the case for the SME Model 15A package.

Yes, more *can* be extracted from this magical recording—more detail, more image specificity and three-dimensionality, more bottom-end extension, more transient definition. But the combo of SME Model 15 and 309 SPD made the case for analog's superior musicality and ability to produce in this listener a relaxed state of mind that no sort of digital sound ever has—not even close.

Conclusions

SME's Model 15 turntable and 309 SPD tonearm are a canny distillation of the company's core values of manufacturing and sound. Unlike the Model 10, the 15 has the ingenious suspension design created by founder Alistair Robertson-Aikman, as well as the

essentials of the platter-drive system found in costlier SME 'tables.

Considering its space-saving design, good looks, impeccable build quality, and nimble sound—including rhythm'n'pace abilities that, in my opinion, put it at the head of the SME pack—I rate this combo a complete success: the first major turntable project to come to fruition since Robertson-Aikman's death, in 2006.

Because the Model 15 incorporates design elements, parts, and features—such as the motor-control unit—found in far more expensive SME turntables, it's safe to say that few, if any, startup makers of turntables could possibly make something of this sophistication and high quality of build and features and sell it for \$7399. Likewise, although I have a few problems with the 309 SPD arm, if there's another tonearm available for *ca* \$2000 that can compete with it in terms of build quality, features, and sound, I don't know about it. That said, I think the Model 15 would produce even better sound with a better arm, whether made by SME or another manufacturer.

I really enjoyed the time I spent with SME's Model 15 and 309 SPD. In the category of 'table-and-arm combos for \$10,000 or less, I enthusiastically recommend this one—especially if you don't have lots of space and want something nonfiddly that has elegantly understated looks, will hold its settings indefinitely, and will work now and, apparently—if previous SME designs are any indication—forever. ■

Michael Fremer (fremer@analogplanet.com) is the editor of *AnalogPlanet.com*, a *Stereophile* website devoted to all things analogical.

5 I reviewed this recording; see www.analogplanet.com/content/impassioned-lovers-wrestle-one-pianist.

CONTACTS

SME Limited

Mill Road, Steyning
West Sussex BN44 3GY
England, UK
Tel: (44) (0)1903-814321
Fax: (44) (0)1903-814269
Web: www.sme-audio.com

US distributor: Acoustic Sounds Inc.
605 W. North Street, PO Box 1905
Salina, KS 67402
Tel: (785) 825-8609
Fax: (785) 825-0156
Web: www.acousticsounds.com

Amazing \$49.95 Upgrade

Most audiophile upgrades cost hundreds of dollars. The Pangea Audio AC-14SE MkII upgrade power cable, however, offers dual-layered shielding, high flexibility, solid-blade copper contacts and US-made Cardas Grade One copper for the amazing low price of only \$49.95. Order AC-14SE MkII now *risk free* with our exclusive 30-day money-back guarantee.

Pangea Audio AC-14SE MkII
upgrade power cable with Cardas
Grade One copper, 1.0M* \$49.95
– plus Free Shipping in the US

**To Order Call
(800) 942-0220 or visit
audioadvisor.com**

*Longer lengths available. Engineered in USA.
© Audio Advisor, Inc. 3427 Kraft SE,
Grand Rapids, MI, 49512



Telefunken 6922/E88CC
Made in Ulm, Germany in 1968, these are the most sought after and rarest 6922 type ever. An incredible upgrade to your gear. Find a HUGE inventory of vintage tubes only at: www.upscaleaudio.com



MANLEY
Chinook Phono
in Stock

PRIMALUNA DiaLogue Premium
Integrated Amp in Stock

SONUS FABER
Venere
in Stock



AUDEZE
LCD-3



VPI
HRX in Stock

NOLA
KO in Stock

Upscale Audio is always on the hunt for new products. Check our website for the latest.

IN STOCK: ACOUSTIC ZEN, AES, AHI TJOEB, ANTHEM, ARCAM, ATMA-SPHERE, AUDEZE, AUDIO QUEST, B&K, BEL CANTO, NZ MICRO, CARY, CHANG LIGHTSPEED, CLEARAUDIO, COINCIDENT, DH LABS, DYNAVECTOR, ERA, EQUI-TECH, EXACTPOWER, GALLO, GRAHAM, JL AUDIO, KIMBER KABLE, LYRA, MAGNUM DYNALAB, MANLEY, MARTIN LOGAN, MUSIC HALL, MYSTÈRE, NITTY GRITTY, NOLA, NORDOST, NOTTINGHAM, OPERA, PATHOS, PEACHTREE, PRIMALUNA, PRIMARE, PS AUDIO, QUAD, REGA, REL, SME, SOOLOOS, SONUS FABER, SUTHERLAND, TRI-PLANAR, VPI, VINCENT, AND VIENNA ACOUSTICS

UPSCALE
AUDIO
HIGH FIDELITY • MUSICAL SYSTEMS

www.upscaleaudio.com

2504 Spring Terrace • Upland, CA 91784
[909] 931-9686 FAX: [909] 985-6968

LISTENING BY ART DUDLEY

THIS ISSUE: Art plays his music with perhaps the heaviest modern phono cartridge ever, the Tzar DST.

The Little Tzar

In a typical phono cartridge, the stylus is at one end of an oversize cantilever (oversize in comparison with the cartridge's other moving parts), the fulcrum of which is nearer the cantilever's *other* end. That design makes possible a certain amount of mechanical compliance that, when the cartridge is lowered to the record surface, helps the stylus seat itself in the groove rather than bounce or skip all over the place. Without at least a modicum of *springiness*, cueing up a record would be more difficult, and jukeboxes and automatic record changers might never have been possible. Imagine!

But, as I described in last month's column, the cantilever of an ideal phono cartridge would be as short as possible, with a fulcrum equidistant from the stylus at one end and the generator at the other: Otherwise, the generator's excursions can't really keep pace with the excursions of the stylus, the result being compressed music. And compressed music is on a par with condensed soup, evaporated milk, and freeze-dried coffee: All are 20th-century substitutes suitable for use only in times of war.

Thus does consumer friendliness come at the cost of diminished *fidelity*—a commodity to which the mainstream audio press has, for decades, paid the most extravagantly self-serving lip service. Sure, frequency-response aberrations have always come in for their share of finger-wagging, but in the 1960s and '70s, when the faithful reproduction of dynamic contrasts was thrown out the window as cartridge manufacturers competed to achieve ever-higher levels of "trackability" at ever-lower levels of vertical tracking force (VTF), what did we hear from the old-guardians of fidelity?

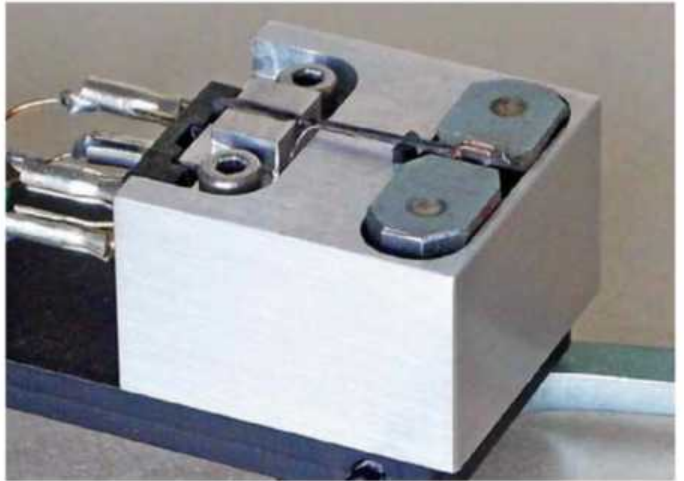
[Crickets]

Life during wartime

When is a long cantilever better than a short one? I can think of only one hypothetical situation, and that would be if the generator's moving parts—its coils, magnets, nub of iron, whatever—were attached directly to the *stylus* end of the cantilever. In such a case, a cantilever of any reasonable length could be used: The location of its fulcrum would now be irrelevant.

Yet that situation *isn't* hypothetical: It's precisely what one sees in the Neumann DST 62 phono cartridge, which the famous Berlin-based maker of microphones introduced in 1962. In that regard if no other, the Neumann stands alongside the Decca/London cartridges I discussed last time as a rare shot across the bows of audio asininity.

You can pretty much guess the rest of the story: The DST 62 was an exceptionally good product, but Neumann didn't sell many of them, perhaps because the thing was so difficult to make, and so expensive: When first imported into the US, it sold for \$79.50—in 1962, a great deal of money for a phono



Unorthodox: the Tzar DST, from Siberia. Note coils attached directly to cantilever.

The Tzar DST is the heaviest phono cartridge of my experience.

cartridge. The DST 62 appears to have been phased out by 1966, but in the late 1980s it was rediscovered by hardcore enthusiasts in Japan—the same people who rediscovered the horn loudspeaker, the 300B triode tube, the turntable idler wheel, Scotch whisky, and Lark cigarettes. Today, vintage enthusiasts worship the groove the DST traces, and samples, when they surface, command huge prices.

In fact, it was a Japanese maker of cartridges that, not long ago, cooked up a modern model based on the basic DST 62 design: The Lumière, available as both a self-contained pickup head and a standard-mount (0.5" spacing between the bolt holes) phono cartridge, attracted vintage enthusiasts with its Altec-esque green hammertone finish and its promise of Neumann-esque sound. But it seems that relatively few samples were made, and descriptions of the Lumière's impressive performance are tempered with reports of considerable sample-to-sample variation. Besides, no one seems to know for sure whether the Lumière remains a commercial reality. (Either way, I have to keep an open mind: Like most other hobbyists, I've never even *seen* a Lumière cartridge, let alone heard one.)

Fast-forward to April 1, 2015, when Robin Wyatt, of Robyatt Audio, sent me an e-mail containing no text and a single image: a photograph of a cartridge I'd never before seen, the body of which appeared to be a big, bland block of aluminum. Closer inspection revealed a familiar-looking—and very long—cantilever, poised between a pair of outsize and similarly recognizable pole-pieces. Was I looking at a DST motor in a brand-new body? My four-word reply: "You have my attention."

I could not have anticipated Wyatt's response: "Siberian remake of the famed Neumann DST. And guess who the importer is?" A later e-mail explained that this new manufacturing company is called Tzar Audio, but of the individual doing the actual building, Wyatt said that "he would rather remain anonymous." (*But: He let it slip that the builder is a male!*)

News, on April Fool's Day, of a presumably expensive Siberian product is typically met with disbelief. But years of reporting on perfectionist audio have beaten much of the skepticism out of me. I wrote back and expressed my fervent interest in borrowing a review sample, which I received from Robyatt Audio at a time when the Mets were doing especially well in the National League East. Life was good.

Wish upon a Tzar

Arguably the most sinister horseman of the hi-fi apocalypse is the one called Excess Mass.¹ Thankfully, one product category has long remained immune to his villainy: No one has ever found a way to fasten a great, steaming, 30-lb pile of aluminum to a phono cartridge.

Nevertheless, the Robyatt-imported

Tzar DST (\$10,000) is the heaviest phono cartridge of my experience: It weighs a remarkable 17.5gm—that's just 0.1gm less than an entire EMT TSD 15 pickup head—and its aluminum body is 0.83" (21.3mm) long by 0.81" (20.7mm) wide by 0.51" (13.1mm) tall. That the latter two dimensions approximate the so-called Golden ratio did not escape my notice. (Who says modern audio reviewers don't know how to measure?) The body's top surface is machined with a pair of holes, spaced 0.5" apart, drilled and tapped for cartridge-mounting bolts of the usual sort. An opening for the Tzar's magnet and intricate pole-piece structure is milled into its underside, along with a recess for the block, evidently adjustable, to which the cantilever is mounted.

In a departure from the original Neumann DST 62, whose cantilever was an aluminum tube, the Tzar DST's cantilever is a rod of solid carbon fiber 19mm long and, over most of its length, perhaps 0.5mm in diameter (a guess). The rod's compliance, such as it is, is defined by two elements. The first is a tiny, thin, U-shaped elastomer damper between the rod and the cartridge body, ap-

proximately 7mm behind the stylus. The second element is somewhat more radical: At a point along the cantilever's length just ahead of the aluminum block to which it's fastened, a relatively healthy amount of carbon fiber has been milled away on opposing sides of the rod—imagine a pair of tiny cartoon beavers felling a tree—leaving behind only a very thin segment of rod for about 1mm of its length.

The stylus, which is said to have a spherical profile, is fastened to the cantilever with an adhesive that looks epoxy-like, applied in what seems a slightly more generous amount than one usually sees. (I assume that drilling the carbon-fiber rod with a hole for the stylus shank is not feasible.) And then we have the coils, which are directly affixed to opposite sides of the cantilever. While the coils of most moving-coil cartridges are circular or elliptical, these are equilateral triangles, installed without a former at their center: They function as air-core coils. Each triangular coil has rounded apexes and sides *ca* 2mm long, and each is affixed to the cantilever so that

¹ His no-less-evil companions are Inefficiency, Juvenile Styling, and Pointless Complexity.



CLEARAUDIO Concept
\$1,599



MUSIC HALL MMF-2.2
\$299



AVID Acutus Reference SP
\$26,995



VPI Prime
\$3,799



REGA RP10
\$5,495



PRO-JECT Debut Carbon DC
\$399



2016 MUSIC DIRECT CATALOG

Get a FREE copy of our new 278-page catalog. Call us or visit our website.

the triangle's forwardmost apex is just behind the stylus, and its side nearest the record surface is parallel to and slightly proud of the carbon-fiber rod. Thus, with the stylus seated in the groove, there is a vanishingly small gap between vinyl and coil.

From all appearances, making a Tzar DST cartridge is only slightly easier than injecting dinosaur DNA into frog eggs. I have steady hands and decent vision in one eye, and I'm pretty good at detail work—yet I know I couldn't even *begin* to do this sort of thing. If the foreman on the DST assembly line gave me 40 tiny rods and told me to whittle away a smidgen of carbon fiber from each, he'd be lucky to get back 80 even tinier rods. I'd surely lose my job. I might even get packed off to Siber—Oh. Never mind.

Bring him home

A watchmaker's expertise is obviously called for here. Not at all strangely, it was a watchmaker who came up with this whole let's-rescue-the-DST-from-extinction thing in the first place: Frank Schröder, who also happens to be one of the world's foremost designers and makers of tonearms.

Compressed music is on a par with condensed soup, evaporated milk, and freeze-dried coffee.

The first of the new DST 62-inspired cartridges was a one-off, made for Schröder's personal use. But as he explained to me, "It became clear that [the cartridge] was way too good to just leave it at that." So Schröder suggested to the builder some changes, and eventually partnered with Robin Wyatt, who came up with the name Tzar DST.

According to Schröder, the Tzar DST's compliance is "very low," and the cartridge performs best in a tonearm with an effective mass of 25gm or more. (He's also designing a new tonearm of his own that will suit the Tzar and various vintage cartridges from Fairchild, G.E., Ortofon, and, of course, Neumann.) Schröder recommends a VTF of 3.2 to 4gm for the Tzar DST—the original DST was designed to track at 6gm—and suggests that, with its air-core coils, the Tzar's

very low (0.25mV) output works best with a step-up transformer of moderately high inductance; if it's used with an active step-up device, Schröder recommends an input impedance of 600 to 2k ohms.

As for cosmetics, this isn't one of those phono cartridges whose body is made of ivory, semiprecious stone, or Neolithic pottery: It's made of aluminum. (The original DST 62 was phenolic.) Viewed head on, the underside of the Tzar DST resembles a robotic bulldog; mounted in a typical headshell, it looks like a robotic bulldog with a deformed ear.

Function follows form: Because the body of the Tzar DST is all right angles; because the cartridge's design is such that a bent or misaligned cantilever is extremely unlikely; and because it has a spherical rather than a multiradial stylus, I found aligning it rather easy. The paucity of daylight between the record's surface and the Tzar's belly made the stylus tip a bit difficult to see, but even that wasn't too big a challenge. During its time in my home, I used the Tzar DST with four different combinations of tonearm and turntable: the Abis SA-1.2 tonearm on

EARTH'S MIGHTIEST NEW TURNTABLE



VPI Avenger
from \$9,500-\$21,000

musicdirect

800-449-8333 | MUSICDIRECT.COM



Dr. Jekyll.



Mr. Hyde.



The New Musicbook: High-End Sound With Ease and Style.

For 25 years Germany's Lindemann Audiotechnik has been designing some of the world's most advanced digital and amplification products. Their new Musicbook offers true high-end sound without all the boxes, racks, cables and complications of a traditional high-end audio system. Musicbook gives you the best of both worlds: genuine high-end sound in an elegant all-in-one-type system that can easily be placed anywhere in the home or office.

Pictured above is the Musicbook 15/55 system. On the outside it's sumptuous, graceful and cleverly designed with refinements and finesse worthy of Dr. Jekyll. It features: solid aluminum casework, state-of-the-art DACs, a full-function remote control and an easy-to-use one-touch control wheel.

But on the inside beats the heart of a killer system bursting with the pure adrenalin of Mr. Hyde. With its: fully balanced analog preamp and volume control, state-of-the-art AKM 32bit/768kHz DAC capable of native DSD playback, superb class A headphone amplifier, built-in high quality CD player, all the analog and digital inputs you could ever want and balanced class D power amplifier, with a fully discrete circuit that pounds out 240 watts, Musicbook delivers the goods!

Together these two boxes comprise a complete state-of-the-art high-performance music system. Just connect all your sources and add speakers.

Read the full story at: www.bluebirdmusic.com/lindemann

LINDEMANN.

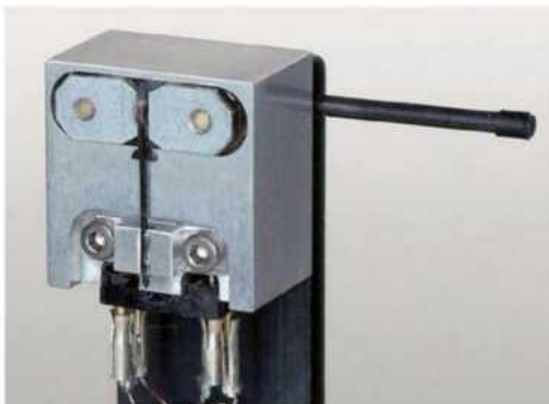
my Thorens TD 124 turntable; the Thomas Schick arm on my TD 124; the Schick on the PTP Audio Solid 12 'table; and the EMT 997 arm on my Garrard 301 'table. With both the Schick and EMT arms, I made use of the Schick's graphite headshell.

I also tried sending the Tzar's output to three different step-up transformers: the Hommage T2; the Shindo-designed, Lundahl-made transformers in my Shindo Masseto preamp; and a purpose-built transformer assembled in Germany by a small company called Ampliserv Ltd., and loaned to me by distributor Robin Wyatt. The latter unit incorporates a vintage *double* transformer—actually, two matched transformers in one can—called the Neumann Bv33, made for Neumann by Haufe GmbH (which endures). Wyatt reports that this step-up device is commonly available on eBay for around \$1750, although I was disappointed to see that none were available when I checked. I hope more samples of the Ampliserv will become available: It provided the best performance with the Tzar. That said, at the 2015 Capital Audio Fest, in Maryland, I listened at length to a sample of the Tzar DST driving the Bob's Devices Sky 30 CineMag transformer (\$1250) and was very impressed. (I would say "blown away," but then I wouldn't be here to write this column, would I?)

Oh, what do you want now?

Just about any phono cartridge can communicate the force with which a pianist hits the keys in a passage played forte (*f*). Before using the Tzar DST in my system, I honestly hadn't realized what a poor job most stereo² cartridges do of communicating a pianist's sense of touch when he or she plays a piano *piano* (*p*). I heard that with slap-in-the-face clarity the first time I used the Tzar to play "Warm Canto," from Mal Waldron's *The Quest* (New Jazz/Original Jazz Classics NJLP 8269/OJC-082). Under that carbon-fiber rod, pianist Waldron's gentle chording in the early portions of this recording were astonishingly lifelike. And that's nothing compared to what the Tzar DST revealed in Ron Carter's pizzicato playing in his cello solo: I had never before heard it reproduced with so realistic a sense of touch.

And rigorously played piano, even in relatively compressed pop record-



News, on April Fool's Day, of a presumably expensive Siberian product is typically met with disbelief.

ings—one example being "Whizz Kid," from Mott the Hoople's *Mott* (CBS 69038)—fairly *galloped* under the spherical stylus of the Tzar DST. On the notepad I used during listening, my erudite observation "WOW!" was scrawled with such force that its impression could be seen two or three sheets beneath. (Might this become a new audio-review parameter? It makes at least as much sense as others I've seen . . .)

With orchestral recordings, the Tzar DST allowed strings to sound sweet and utterly huge, with extraordinarily good, snappy, vibrant note attacks—as in the vivid recording by Neville Martinier and the Academy of St Martin-in-the-Fields of Elgar's Introduction and Allegro for String Orchestra and Quartet (Argo ZRG 573). The same ensemble's recording of the Mendelssohn Octet, this time with Marriner on violin (Argo ZRG 569), also sounded magnificent, with an unmistakably human sense of momentum in every musical line.

Notably, with every LP I tried, the Tzar DST's bass performance was similar to if more generous than that of the London (née Decca) Maroon I wrote about last month: taut, a little bit dry, far more capable than average of relaying tension, never rubbery, never excessive.

Some notes on gear matching: Used in the Schick tonearm on the PTP Solid 12 turntable, the DST was extraordinary. That combination, lopsided though it was in terms of

price—a \$10,000 cartridge with a €2750 turntable—made for some of the best listening I've enjoyed in my home, bar none.

Used in the Abis arm on the Thorens TD 124, the DST sounded less athletically forceful and dynamic, and slightly more rounded off: darker, but not dark per se. The rounding-off was especially audible in voices, such as Andy Partridge's in "The Man Who Sailed Around His Soul," from XTC's *Skylarking*

(45rpm, Ape APELP004D)—yet on that number, the DST did a brilliant job of defining the touch and presence of the bongos, finger snaps, and flute in the introductory bars. Similarly, in the Borodin Quartet's recording of Borodin's String Quartet 2 (Decca/Speakers Corner SXL 6036), the Tzar-Abis combination specialized in a delicate sort of force—a sweet sense of touch with, again, very slightly rounded trebles compared to when I used the cartridge in the Schick. But the sound was nonetheless enchanting, and made for very engaging, very palpable late-night listening.

In general, the Tzar DST proved itself the force-and-touch king of stereo cartridges but, at best, a prince in terms of stereo center fill. This shortcoming manifested itself throughout my time with the Tzar, a good example being the recording of Elgar's *Sea Pictures* by mezzo Janet Baker, with Sir John Barbirolli conducting the London Symphony (EMI ASD 655). In *Sea Slumber Song*, Baker's voice wasn't nearly as whole, and not nearly as proud of the orchestra, as it should have been. And on that record's flip side—Elgar's Cello Concerto, in the singularly great performance by Jacqueline Du Pré and Barbirolli/LSO—the solo cello lacked center-fill definition. In fact, I had the unshakable impression that the aural image of the cello persisted in wanting to seep into the left speaker or the right, as a car in need of a front-end alignment has trouble keeping to the center line.

Then again, that flaw was overcome—wildly, strongly overcome—by the tremendous level of sheer drive the Tzar DST brought to this record. For those of you who aren't familiar with it, this greatest of all recordings of

² None of my EMT OFD-series *mono* pickup heads have any trouble getting this across.



aurender

REFERENCE MUSIC SYSTEMS

N10 Caching Music Server with 4TB Internal Storage

World's first on-the-fly DSD to PCM conversion for legacy DACs

240GB SSD for caching playback.

Supports NAS or USB storage with full metadata with the help of AMM (Aurender Media Manager).

Low-noise linear power supply.

USB, AES/EBU, COAX, BNC, Optical Digital Audio outputs.

Aurender App

Aurender comes with a dedicated Aurender Conductor App, hailed by reviewers worldwide, which has been specially tuned for performance and convenience. The Aurender iPad and Android app has been developed with a huge music database in mind and exceptionally fast browsing/searching of your favorite music.



TIDAL

Enjoy 35 million lossless CD quality music tracks with the world's best sounding Music Server. All Aurender Servers and Players support the TIDAL service fully. You can easily play music from your NAS, on Aurender's HDD or music from the TIDAL service using the same app.

Jacqueline Du Pré would sound forceful on a Mattel Close 'N' Play—yet the DST found more drive where, reasonably enough, I'd assumed there was no more to find.

Rite of springiness

How well did the Tzar DST track the groove? I admit to having been slightly concerned about this, as one often is when using phono gear that's so decidedly *different*. I needn't have worried. At a VTF of about 4gm, the DST remained *composed*—my listening notes, if not the pages beneath them, are littered with that word—while tracking even the most challenging vocal recordings, a category that included soprano Lisa Bonenfant singing a program of songs by Jacques Leguerney, with piano accompaniment by Mary Dibbern (Harmonia Mundi HMC 1171). It isn't enough to say there was no distortion, no harshness, no audible sign of stylus and groove parting as enemies: My listening experience was one of complete ease, as I experience when listening to actual musicians singing and playing in the same room.

But: At the recommended VTF, the interface of the DST's stylus with the

groove was extremely susceptible to footfalls and other such disturbances. Having lowered stylus to groove at the start of a record, I had to tread very carefully back to my seat—a bit of a drag, but not too difficult to overlook.

And not nearly as difficult as finding in one's household budget \$10,000 for a phono cartridge. Sadly, if understandably, this is one of those products that will be enjoyed only by folks for whom such an expenditure is no big deal. (I amused myself by trying to imagine a bank loan for such a thing—and in so doing happened to divide \$10,000 by 60, the number of months over which I paid for our family's last two automobiles. The answer came out to \$166.66666666, a sum that so unnerved me that I abandoned that line of thinking altogether.) Yes, I'm certain that manufacturing and tuning a Tzar DST is a very time-consuming and thus expensive thing to do. And, yes, \$10,000 for a cartridge is more than I would care to spend even if I *had* it to spend. And remember: Glimpses of what make the Tzar DST special can be had from certain less expensive products, including that London Maroon and virtually any EMT OFD

cartridge, the latter sadly no longer in production.

Still, given the Tzar DST's uniquely—in my experience—high price, one might reasonably ask: Is it the best I've heard?

Considered in the context of those playback parameters that mean the most to me, the only answer to that question is *Yes*. Despite its few flaws, all of a sort one finds in any product designed and tuned with only performance in mind, the Tzar DST is the most incredibly tactile, forceful, and altogether open-throttled pickup I've ever tried. I can't help feeling a little disappointment at its sudden absence from my home. ■

Art Dudley (art.dudley@sorc.com) pulls the spiral groove on his LPs past a spherical stylus in wintery upstate New York.

CONTACTS

Tzar Audiology

US distributor: Robyatt Audio
513 Dotters Corner Road
Kunkletown, PA 18058
(855) 762-9288
Web: www.roblyattaudio.com

Kick it up a notch!



The Rogue Audio M-180 Tube Monoblock

180 watts of pure tube power • 5hz - 50khz bandwidth • Triode operation • \$5995 per pair

Rogue Audio, Inc. • Brodheadsville, PA • 570-992-9901 • www.rogueaudio.com

DEVIALET

INGÉNIERIE ACOUSTIQUE DE FRANCE



Analog Digital Hybrid
The unique technology that combines the best of both worlds: pure analog sound, smart digital power.



Speaker Active Matching
For the first time, the signal is adapted to the characteristics of your speaker model. Your speakers are transfigured.



Record Active Matching
The only system that adapts the phono stage to the characteristics of your turntable and of the record playing. Sets a new standard for the vinyl experience.



Magic Wire
A breakthrough and innovative digital to analog conversion architecture. The best in class performances.

Much more than a simple amplifier, Devialet reinvents and brings together for the first time all the key elements of an expert listening experience (preamplifier, amplifier, DAC, streamer) into a single plate. Expert integrates Devialet's great invention, the ADH Intelligence, offering the best of both world: analog and digital.

Your Devialet Expert is like non other: adjust in your Configurator each of the thousand possible configurations, for a unique musical experience. And thanks to the exclusive SAM technology, get the best out of your speakers, while protecting them.

EXPERT

AUDIOPHILE EVOLUTIVE SYSTEM

BOOK YOUR EXPERT LISTENING SESSION AT ONE OF OUR DEALERS

AUDIO ELEGANCE

3435 Galt Ocean Drive, Fort Lauderdale FL 33308 / (800) 918-0597

AUDIO SALON

2525 Michigan Avenue Gallery F1, Santa Monica CA 90404 / (310) 863-0863

AUDIO VISION

1628 California Street, San Francisco CA 94109 / (415) 614-1118

DAVID MICHAEL AUDIO

4341 Delmere Court, Royal Oak MD 48073 / (586) 244-8479

DEFINITIVE

14405 NE 20th Street, Bellevue WA 98007 / (425) 746-3188

6206 Roosevelt Way NE, Seattle WA 98115 / (206) 524-6633

6450 Tacoma Mall Boulevard, Tacoma WA 98409 / (253) 472-3133

GRAMOPHONE

8880 McGaw Road, Columbia MD 21045 / (410) 381-2100

4 West Aylesbury Road, Timonium MD 21093 / (410) 308-1650

HANSON AUDIO VIDEO

3140 Far Hills Avenue, Kettering OH 45429 / (937) 293-6200

HOUSE OF MUSIC

410 Harriet Street, San Francisco CA 94103 / (415) 255-0888

INNOVATIVE LIFESTYLES

6210 Shirley Street Suite 104, Naples FL 34109 / (239) 591-4673

LISTEN UP

2034 Arapahoe Avenue, Boulder CO 80302 / (303) 444-0479

888 East Woodmen Road, Colorado Springs CO 80920 / (719) 633-2600

685 South Pearl Street, Denver CO 80209 / (303) 778-0780

OVERTURE ULTIMATE HOME ELECTRONICS

20660 Coastal Highway, Unit 1, Rehoboth Beach DE 19971 / (800) 838-1812

2423 Concord Pike, Wilmington DE 19803 / (800) 838-1812

SCOTT WALKER AUDIO

1215 N. Tustin Avenue, Anaheim CA 92807 / (714) 349-7782

SIGHT+SOUND GALLERY

805 Peachtree Street, Atlanta GA 30308 / (888) 419-3113

STEREO EXCHANGE

627 Broadway, New York NY 10012 / (212) 505-1111



Pure musical joy
Timeless elegance
Handmade in U.S.A.

 **YG ACOUSTICS™**
www.yg-acoustics.com +1-801-726-3887

AUDIO BY MICHAEL LAVORGNA STREAMS

THIS ISSUE:
Michael Lavorgna
writes a love poem

The Totaldac d1-tube-mk2 DAC

I eat bits for breakfast. Lunch is a simple bit-sized snack. And dinner is the analog to real food. This has been my routine these past four years as editor of AudioStream.com, where we digest all things computer audio.

In that time I've reviewed over 100 digital-to-analog converters, ranging in price from \$60 to over \$12,000. This adds up to roughly 150,000 words spilled on DACs. You'd think my pen would be running dry—especially if you feel, as some do, that all DACs sound pretty much the same. If that were the case, I could have written just one review, for that very first DAC, then cut and pasted it for all the rest. What was I thinking?

Of course, all DACs do *not* sound the same. One good reason for their differences is that the DACs themselves are not the same. Some hobbyists like to think that all DACs that contain, say, an ESS Sabre DAC chip will sound more or less alike, yet that could not be further from the truth, and for a simple reason: *DAC chips do not make music*. It takes a bunch of other stuff—important stuff—to turn bits into music.

One of the more fascinating facts about DACs is revealed when you talk to their designers. It's fair to say that each designer has a different philosophy of DAC design. While delta-sigma DACs are the topology du jour, some designers depart from this crowd in search of what they feel is a better way.

PS Audio's DirectStream DAC handles digital signal processing and more with a field-programmable gate array (FPGA), as do the DACs made by the UK's Chord Electronics. Rather than using the reconstruction filter provided by the DAC chip, others, like Ayre Acoustics, implement their own filter in an FPGA. Bruno Putzeys, of Mola Mola, forgoes chips altogether in his DAC, using only discrete semiconductors and offloading to a digital signal processor (DSP) such sonically important functions as upsampling and dejittering. Then there's the non-oversampling school (NOS), in which bits are converted to analog using new old stock (NOS) chips like the Philips TDA1543 and TDA1541.

Among all these ways, are any right or wrong? It depends on whom you ask. Objectivity is not to be found among designers, and if it were, what a boring world it would be. We want our audio designers to be passionate, searching souls, driven by a near-mad desire to give us our digitally stored music in all its original power and glory . . . at least I do.



Processeur numérique: the
Totaldac d1-tube-mk2.

It's fair to say that each designer has a different philosophy of DAC design.

We can look to measurements for a cooler head. But, as we all know, measurements can't tell us how something sounds. More important, no set of measurements can tell us how something will make us *feel*. Distressingly, this short-coming also applies, more or less, to subjective reviews: While we do our best to communicate to readers how something sounds, all we can ever really tell you is how it sounds *to us*.

Totaldac d1-tube-mk2 DAC

Which brings me to Vincent Brient. He's based in France, near the island of Mont Saint-Michel, atop whose rocky cliffs perches an eighth-century abbey. Saint-Michel is surrounded by some of the wickedest tidal shifts on Earth, with a difference of about 46' between high and low tides. This is where, under the company name Totaldac, Brient makes a variety of digital-audio products.

For his DAC designs, which do not use oversampling, Brient's technology of choice is the discrete R2R ladder: This approach converts incoming binary data to voltages, and requires only two resistor values: R, and 2R. It sounds simple and easy, yet conversion accuracy relies on the precision of those resistor values.

You also need a boatload of them. Each Totaldac resistor ladder is made with Vishay's 0.01%-tolerance VAR-series Bulk Metal Foil resistors—in the US, these range between \$9 and \$15 each, depending on quantity—the exact number required varying with the model. Totaldac's d1-tube-mk2 DAC (€9100) contains 200 resistors for each of its two channels. Precision is the make-or-break proposition for any resistor-ladder circuit; Brient spent years refining his.

Music is the space between the notes.

Claude Debussy



Audition the astonishing $>128\text{dB}$ signal to noise ratio SAE 2HP (2 Horsepower) amplifier at your nearest SAE dealer to experience the silence between notes.



www.hear-sae.com

Every Totaldac also contains an FPGA, within which a number of different processes occur. All incoming data are buffered with a 10ms delay and reclocked, reportedly to improve jitter performance. A user-selectable *finite impulse response* (FIR) compensation filter corrects for the imperfect frequency response endemic to non-oversampling DACs; according to Brient, the d1-tube-mk2's treble rolloff is more than 3dB at 20kHz without the FIR filter. Last, the DAC's digital volume control is implemented in the FPGA, with 69-bit resolution.

An XMOs-based, asynchronous receiver is employed for the USB input; the d1-tube-mk2 also has TosLink, coax S/PDIF, and AES/EBU inputs. Outputs are pairs of RCAs and XLRs, both single-ended. The Totaldac's external power supply attaches to it with a screw-down umbilical cable. A generic plastic remote handset gives the user control of volume level, engaging or disengaging the FIR filter, turning the front-panel display on or off, power on/off, input selection, phase polarity, earth connection (signal ground is either connected to or isolated from earth), and mute.

As the d1-tube-mk2's name suggests, its output stage includes two ECC82/12AU7 dual-triode tubes, instead of the discrete class-A transistor circuit found in Brient's d1-dual DAC. My review sample included the DSD (DoP) option (€320), which allows the USB input to accept DSD64 data. All the inputs, S/PDIF and AES/EBU, as well as USB, support PCM resolutions up to 24-bit/192kHz, though the TosLink input maxes out at 24/96.

The d1-tube-mk2 is wrapped in a case of black aluminum, and there's an anti-vibration copper sheet mounted inside. I like the Totaldac's size (14" wide by 4.3" high by 11.3" deep) and shape (a truncated pseudo-pyramid). Its polymethylmethacrylate (PMMA) front panel comes in black or silver, and displays (in yellow) the data I'm interested in: volume level, input selected, sample rate. The little external power supply (4.8" W by 2.5" H by 7" D) mimics the DAC's shape.

Business: Necessary requirements

I live in Computer Audiophile: All of my digital music is stored on a Synology DS412+ NAS. My MacBook Pro runs the Roon Server software, and I used Totaldac's USB filter/cable (€330 in lengths of 0.25, 0.5, or 1m;



The enjoyment of music feeds our humanness. Some of us are just hungrier for it than others.

€360/2m) to connect Mac to DAC. To control playback I used my iPad Mini, running Roon.

Music: Necessary nourishment

When we talk about listening to music, what we really talk about is an emotional connection. I want to feel as if there's nothing separating me from my music—a tall order, considering all the complications entailed by the process of listening to recorded music. I don't want to hear great bass, a rich midrange, or silky-smooth highs. I especially do not want to hear a soundstage—ever. What I want to hear is Ron Carter, János Starker, Alfred Brendel, PJ Harvey, Björk (those last two together doing "Satisfaction" is worth your Google time), Jimi Hendrix, John Coltrane, Miles Davis, Julia Holter, D'Angelo, Einstürzende Neubauten, Zoviet*France, Chet Baker, Nina Simone. You get the idea: *music*.

In my experience, most DACs fall somewhere between sounding like digital and really good digital. Sounding like digital manifests itself as a sheet of glass inserted between me and the music. I can see through it, I can mostly ignore it, but it's always there to one degree or another, depending on the DAC.

Listening to music through the Totaldac d1-tube-mk2, there was no glass. I could listen into my music as deeply as I cared to go. Performer, time, space, silence—all were there for the taking. The biggest barrier to entry was the need to quiet my mind.

The systems I used were equally responsible for this uncanny connection, as was the listening space. The solid-state system comprised Ayre Acoustics' AX-5 Twenty integrated amp and DeVore Fidelity's Gibbon X speakers, connected with Auditorium 23 cables. Power-related products (yeah, they matter too) were from Shunyata Research.

The tubed system included my Shindo Laboratory Monbrison preamplifier and Cortese power amp, tied to the same sensitive (90dB-plus) DeVores. My systems are in a barn, separate from our house, with a listening area that measures 35' long by 15' wide by 12' high. (As John Atkinson said as he entered, "Ah: big room, small problems.")

I listened through both systems because Vincent Brient feels that the d1-tube-mk2 DAC sounds best when paired with high-sensitivity speakers and tubed electronics (he considers his solid-state d1-dual DAC, which I reviewed in September 2013 for AudioStream,¹ to be the better mate for solid-state). I hate to disagree, but I found that the d1-tube-mk2 worked equally well in both systems. Then again, just as the d1-tube-mk2 doesn't sound digital, the solid-state Ayre doesn't sound solid-state—but that's another story.

I also listened through the d1-tube-mk2's RCA and XLR outputs, and very much preferred the RCAs. Music had more clinical edges through the XLRs, though this was lessened by switching from Kimber Kable to Auditorium 23 interconnects—but I still preferred the RCAs' more organic sound. I imagine that some listeners might very well prefer the XLRs' more clinical sound. Horses for courses.

Listening to music through the d1-tube-mk2 also washed out to sea the silly arguments about high resolution, DSD, and CD quality—all sounded equally lovely. If you find yourself sorting your music library by sample rate, it's time for a major rethink. Of course, I'm not talking miracles here—the quality of the recording mattered—but what's more important is the quality of the music. I have never thought, *Time for some DSD!* Heaven forbid. Go back a few paragraphs to see where my mind goes when I think about what's next. (Hint: *music*.)

The d1-tube-mk2 excelled with its uncanny and unshakable clarity. Where lesser DACs turn difficult music into the equivalent of hardened mud, the d1-tube-mk2 unraveled with ease even the most complex, densely layered passages. This clarity also extended to the most minimal moments, in which every nuance is an integral aspect of the music's quivering life (to borrow from Jean-Marie Piel, co-editor of the French music and

¹ See www.audiostream.com/content/totaldac-d1-dual-dac.

HD6 Premium Powered Speakers shown in Walnut Veneer. Only \$749/pair.

HD SERIES



Classic design meets the future.

Introducing our most versatile powered speakers yet. The **Audioengine HD6** blends the best of the past and present with classic good looks and modern features.

- Built-in class A/B monoblock power amplifiers
- Multiple inputs, including optical + Bluetooth® aptX*
- Furniture-grade finishes and magnetic grills
- Solid aluminum remote control
- Easy control from any smartphone, tablet, or computer

Machines for music.
audioengineusa.com


TIDAL
Visit the Audioengine website
for more info on a
free 90-day subscription

audio magazine *Diapason*). There was also a lovely dimensional quality to the sound that brought to life the space of the recording.

"The essence of an interpretation lies in working on the infinitely small . . .": Jean-Marie Piel again.² I keep quoting him because his words echo my thoughts. In my experience, the d1-tube-mk2 got the infinitely small, the infinitely large, and everything in between pretty much right.

Is Totaldac's d1-tube-mk2 the perfect DAC? Does it deliver the absolute sound? Is it the best you can buy regardless of price? Is it a giant-killer among giants? Should you buy one today? Oh, pish-posh.

Music, or evidence of music, has been found in every culture, dating back as far as we humans go. You could say that the enjoyment of music feeds our humanness. Some of us are just hungrier for it than others. Listening to music as a dedicated activity is an important part of my life. Heck, we moved to a house with a separate building so that I'd have a good place to listen.

What each of us finds musically convincing is deeply personal. There is

When we talk about listening to music, what we really talk about is an emotional connection.

no "best" in hi-fi, and nothing is perfect. All I can tell you is how listening to music with the Totaldac d1-tube-mk2 in my system makes me feel: very happy. And when I say "happy," I mean—

Meaningfully delighted

Some years ago, I was hanging out in the depths of the abbey of Mont Saint-Michel. I found myself alone in a cool, moist, dimly lit, vaulted, stone-walled room. In that monk-quiet space I thought, *This is one of those moments*. I could have been a monk. It could have been the eighth century. I was feeling at one with my Levi's when two couples wandered in and began to walk single file, very slowly, around and around the perimeter of the room, putting more and more distance between them as they circled. My first thought was, *My moment is ruined*. My

second thought was, *What the hell are they doing?*

One of them began to chant. Another joined in, and then another, until all four were performing the most beautiful medieval melismas I had ever heard. As they continued to slowly circle, their voices bounced around the room, blurring the distinction between voices and echoes. I was swept away, out of that room, out of Mont Saint-Michel, out of France, out of time, out of my Levi's, out of myself.

There was nothing to *know* about that experience. There was only something *felt*. I can still recall that feeling deep down in my bones. ■

Michael Lavorgna (michael.lavorgna@audiostream.com) is the editor of *AudioStream.com*, a website for all things computer audio.

² See www.stereophile.com/content/god-nuances-page10.

CONTACTS

Totaldac

France

Tel: (33) 2 90 02 11 39

Cell: (33) 6 18 03 14 08

Web: www.totaldac.com

BRINKMANN

Real High Fidelity.

Balance: /'ba-lən(t)s/verb, adj. : mystical state of perfect harmony

Contact One of These Brinkmann Specialists:

Time of Music
San Francisco, CA
415 824 1779
timeofmusic.com

Analog Audio Minnesota
Minneapolis, MN
612 846 0709
analogaudio.mn

Audio Alternative
Fort Collins, CO
970 221 1496
audioalternative.com

Stereo Unlimited
San Diego, CA
619 223 8151
stereo.unlimitedsd.com

Stereo Haven
Edwardsville, IL
618 974 8895
stereohaven.com

HiFi Buys
Atlanta, GA
770 931 0606
hifibuy.com

BRINKMANN
Brinkmann-USA.com

The new 800 Series Diamond
didn't get better by chance.
It got better by change.
868 changes to be precise.

Bowers & Wilkins

bowers-wilkins.com



MUSIC IN THE ROUND

BY KALMAN RUBINSON

THIS ISSUE: A subwoofer
and two USB accessories are
thoroughly auditioned.

Advanced Add-Ons

In my last column, in the November 2015 issue, I talked about Marantz's AV8802A preamplifier-processor and two accessories: UpTone Audio's USB Regen, and a DIY battery supply for my DAC. This month's column is *all* about accessories, and for me that's unusual. Some items, like interconnects and speaker cables, are usually considered accessories because they're not fundamental components (eg, source, amplifier, speaker), even though they're essential to getting any sound at all.

As far as I'm concerned, an *accessory* is something without which your system would still work just fine. By definition, accessories are preferential, not essential: You buy them in the hope that they'll improve the sound of your system, or make it easier or more convenient to use.

Back in analog days, I could decide whether a different tonearm counterweight was a good idea because my undergraduate study of physics had covered the mechanics of mass, compliance, and frequency. I could also wrestle with the electromagnetics of transformers and motors. At the time, digital signal processes were still mostly theoretical.

Today, I'm losing ground. While I grasp more than a bit of how music is digitally encoded and decoded, I find it difficult to understand how different data-transmission methods (USB, HDMI, Ethernet, FireWire, etc.) affect the quality of the analog output signal and, ultimately, listening enjoyment.

Consider such products as the AudioQuest JitterBug and UpTone's USB Regen. Many people, whether skilled or naïve, biased or impartial, have attempted to test such gadgets, but I'm not aware of anyone who has demonstrated a link between variables in data transmission—beyond basic hardware specs—and what we can actually hear. Of the correlations we *do* see between hardware/software variables and the condition of a product's output signal—measurements that can reveal either improvements or deteriorations in signal quality—most changes are so slight as to be considered below the level of audibility, amounting no change at all. (Of course, in all such cases, one can question whether relevant parameters were being tested.)

AUDIOQUEST JITTERBUG USB FILTER

John Atkinson¹ and the crew at AudioStream.com² have already scrutinized this little gadget (\$49), and everyone seems to like it. How could I not give it a try? I was particularly interested in using it in my weekend system in Connecticut, in which resides my already overachieving miniDSP U-DAC8 multichannel USB DAC.³ Getting eight channels of USB D/A for \$299 is *amazing*—and budget-priced products always seem ripe for tweaking. And, as I reported last time, UpTone's USB Regen—a USB signal regenerator intended to isolate audio peripherals from computer-system noise—had made a hugely satisfying improvement

On the other hand, some manufacturers offer products accompanied by a technical description and a statement of goals for that product—but without test-bench specs. “Try it!” they say, and offer return privileges. Hope and expectation play big roles in deciding whether to add an audio accessory, choosing the particular one(s), and determining whether they're worth the cost and bother. Expectation bias is a friend to such vendors, regardless of whether the product makes an essential difference or is a placebo.

Is there hope? I think so. First, several websites are hosting ongoing, apparently candid, and often contentious public discussions of the testing and measuring of data-transmission

Hope and expectation play big roles in deciding whether to add an audio accessory.

accessories. When the smoke clears, this give-and-take can have led only to better understanding of these technologies. Limited by my technical competence, I am a fly on the wall, but it's fun to watch the sparks fly.

As for the “Try it!” approach, that works, too. Most of us have a closet stuffed with old accessories that didn't stand the test of time. I've bought many gadgets, hoping they would improve the sound of my system by at least one audible increment, but most I've tossed aside. Some made no difference from the get-go. Others offered an initial flush of excitement, but the effect faded over the ensuing months. Few accessories have lasted long in my system: As audio technology advances, the worthwhile improvements effected by today's accessories are sometimes incorporated into tomorrow's new primary components.

These days, I might try an accessory because of word-of-mouth, so long as it doesn't cost the sky. Despite my general skepticism of tweaks and accessories, I'm as much subject to expectation bias as the next guy. I'll just tell you what I hear; as for the rest, I'll wait for the dust to settle.



in that system's sound: Surely, the miniDSP would be a suitable mate for the bruited 'Bug.

When I asked AudioQuest for one, they sent two: AQ recommends using two—and no more—JitterBugs on each USB bus. I searched the JitterBug's box, and AQ's detailed instructions about how to use JitterBugs with various USB-

1 Reviewed by John Atkinson in the September 2015 issue; see www.stereophile.com/content/audioquest-jitterbug-usb-noise-filter.

2 See the reviews by Michael Lavorgna and Steven Plaskin at, respectively, www.audiostream.com/content/audioquest-jitterbug-usb-data-power-noise-filter and www.audiostream.com/content/uptone-audio-usb-regen-and-audioquest-jitterbug.

3 Reviewed in my column in the July 2015 issue: www.stereophile.com/content/music-round-74.

connected devices, for any information about precisely what it does, and how. I found only two relevant statements:

JitterBug is designed to remove unwanted noise currents and parasitic resonances from both the data (communication) and Vbus (power) lines of USB ports. . . .

JitterBug's dual-circuitry measurably reduces unwanted noise currents and parasitic resonances. It also reduces jitter and packet errors (in some cases, packet errors are completely eliminated).

Well, that's admirable—but how? JA was unable to find, in his measurements, any difference in DAC output resulting from the insertion of a JitterBug. Others have reported the same—but some have seen a change in the digital signal's "eye pattern," as observed on a digital oscilloscope. An eye pattern is a way of representing the precision of the digital pulses, which ideally should be square, thus indicating that the on-off transition is perfectly defined in time. Apparently, the JitterBug applies some kind of filter so that the squarewaves' risetime is slightly *increased*—the opposite of what

we want if we want to reduce jitter. However, while we assume this is not good in the digital domain, it's unclear what effect such a filter might have on the DAC's analog output. Is it possible that the JitterBug is actually doing something else, and that the apparent digital compromise is merely a side

When I removed the JitterBug, I missed it.

effect? As long as it's reasonably square, is the eye pattern even relevant?

I don't know. But I, like others, can hear the JitterBug's positive effects on the analog output. I connected one 'Bug between the output of my server and the input of the miniDSP U-DAC8, and—with or without the UpTone USB Regen connected—the JitterBug did seem to sweeten the treble. And when I removed the JitterBug, I missed it. Though the JitterBug's effects were more noticeable without the USB Regen in the system, they were smaller than those of the UpTone accessory—which not only sweetened the treble but also, with multichannel recordings, tightened up

the integration of elements within the soundstage.

I tried inserting a second JitterBug, as AQ recommends, in a different USB jack on the same server, but heard no difference. I also tried the JitterBug in my other system, in Manhattan, with the exaSound e28 DAC. The effect was similar: subtle but sweet.

The \$49 AudioQuest JitterBug is the archetypal accessory whose audible benefits are unsupported by measurements—and, for that very reason, some consumers will reject it out of hand: two imponderables, both of which bother me. At the end of the day, I can only recommend you try it and decide for yourself.

SoTm AUDIO tX-USBhublin USB HUB and sCLK-12.0 SuperClock DIGITAL CLOCK

I had started down a slippery slope. Having been impressed with the effect on the U-DAC8's performance made by UpTone's USB Regen, I had to wonder if the Regen, or something like it, might have a salubrious effect on the sound of my exaSound e28 DAC. The e28's designer, George Klissarov, had deterred me from adding a

Hafler
hafler.com



Chuck Ainlay

Recording Engineer:
Mark Knopfler,
Vince Gill, Wynonna,
Trisha Yearwood

"The HA75 has so many features it's perfect for the studio and home. I've got some pretty amazing headphones that sound ridiculously good when combined with the HA75."

Hafler Brings Excitement to Your Ears!



Introducing the HA75 tube headphone amplifier!

Listening to music through headphones should be more than simply shutting out the world... it should be about enhancing the listening experience so that you get more.

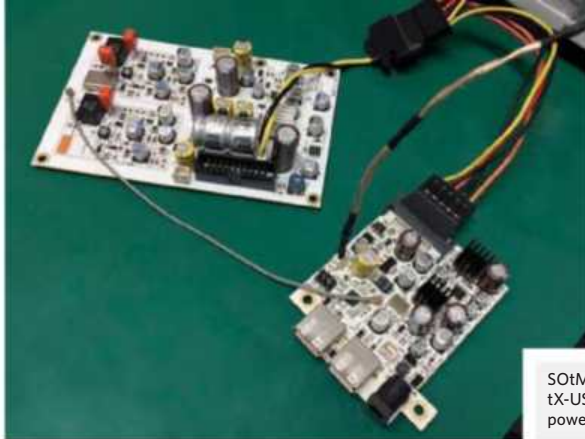
Enter the HA75 Tube Head. It features a high voltage tube drive for incredible warmth and a dedicated control that lets you fine tune the negative feedback from clinically accurate to old school. To bring greater realism to the experience, the Focus™ control employs a unique matrix to simulate the sound as if listening to music in a room. And for those that want to kick up the beat, turn on the three position bass extender and start dancing! With two headphone outputs, you can share the experience in quiet comfort.

The Hafler HA75 Tube-Head... Excitement and realism for your listening pleasure.

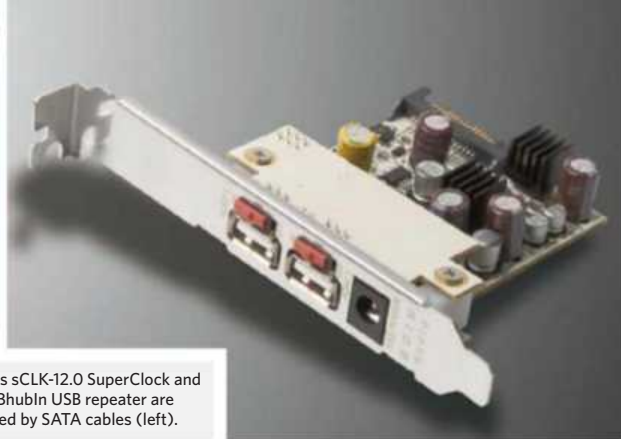
dynaco

Hafler and Dynaco are trademarks of Radial Engineering Ltd., 1588 Kebet Way, Port Coquitlam BC V3C 5M5
©2015 Radial Engineering Ltd. Specifications and appearance subject to change without notice





SOTM's sCLK-12.0 SuperClock and tX-USBhubIn USB repeater are powered by SATA cables (left).



PCIe-standard USB output board to my Baetis XR3 server, characterizing it as unnecessary. Conversely, the designer of the Baetis, John Mingo, recommended just such a thing, even as he has focused his efforts on S/PDIF output performance.

The apparent success of the USB Regen has been followed by the appearance of other devices incorporating a USB repeater to preserve the integrity of the signal reaching the DAC, to ensure that it is perfectly timed and shaped. But how to choose? I dislike having lots of little boxes and additional cables attached to my system; as luck would have it, SOTM Audio recently announced their tX-USBhubIn USB hub board (\$350), which can be

mounted in an available slot in a PC, and can run on the computer's internal power or an external supply. (For \$370, SOTM offers a comparable external device, the tX-USBhubEx.) The tX-USBhubIn has two USB ports, each of which can supply +5V on USB or not. Given SOTM's success with their servers and power supplies, and with their original tX-USBexp PCIe USB Audio Card, I figured that the tX-USBhubIn would suit my needs. SOTM describes the tX-USBhubIn as an "Audio USB 2.0 Hub" with "Ultra Low Noise Regulator," "Ultra Low Jitter Clock," and "Active Noise Canceller," and makes the familiar request: "Do try and in person experience the high quality sound system produced from

the new platform beyond and above the existing PC product criteria."

To my surprise, SOTM also sent their new high-precision clock, the sCLK-12.0 SuperClock (\$500), to further enhance the quality of the USB output. The sCLK-12.0 SuperClock—so new that it has not yet appeared on SOTM's website as I write this—has impressive specs. SOTM's sCLK-series clocks support their dX-USB HD, iM-USB HD, tX-USBexp, tX-USBhub, and other boards. Absent any official documentation, I was sent jitter-spectrum recordings made at the AES/EBU output of a dX-USB HD by a Stanford Research Systems SR1 audio analyzer with a bandwidth of 100kHz, zoomed to focus on the audioband.

40
Years
1974-2014

...a bridge over troubled audio

Jensen wrote the book on magnetic bridge technology and after 40 years, continues to design and produce isolation transformers with the least noise, lowest distortion and widest frequency response of any in the industry. Jensen... the world's finest transformers.

The Jensen Iso-Max® CI-2RR stereo audio ground loop eliminator received the prestigious CEDIA Electronic Lifestyles® Product award as a significant contributor to the advancement of the home theater install industry.

www.jensen-transformers.com
Jensen Transformers Inc. 9304 Daring Avenue Chatsworth, CA 91311

* Appearance and specifications are subject to change without notice.

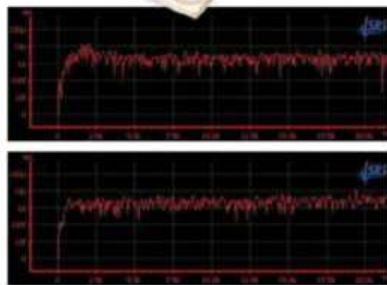
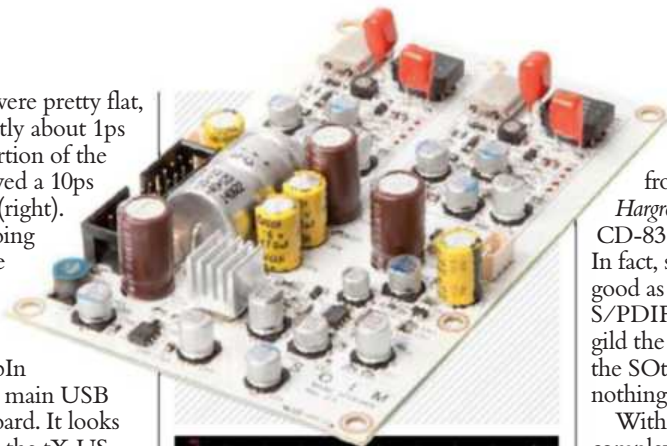
jensenTM
transformers

While all of the graphs were pretty flat, showing jitter levels mostly about 1ps on the log scale, the insertion of the sCLK-12.0 clearly removed a 10ps peak just below 2.5kHz (right). The clock is evidently doing something, but again, the audible impact is under-terminated.

Being a USB repeater, the tX-USBhubIn is to be connected to the main USB header on the mother board. It looks smaller and simpler than the tX-US-Bexp PCIe USB Audio Card, which occupies a PCIe slot and, essentially, establishes a separate USB bus. Both the tX-USBhubIn and the sCLK-12.0 SuperClock require power from the computer's SATA interface; to make this easy, I spent less than \$10 on an internal SATA power Y-cable. Installation took less than 15 minutes, with another 15 minutes to reassemble and reconnect the Baetis server, which then booted up just fine.

My first decision was whether to enable the 5V output on the USB port. Because the exaSound e28 is powered by its own battery, I hoped that disabling the 5V output would eliminate a potential source of noise. However, the e28 needs the 5V connection in order to be recognized by its driver. Enabled for 5V, everything functioned as before, and I was left with the music.

Switching from the XR3's stock USB connector, the SotM hub and clock made an easily audible improvement in the sound of a system that



From top to bottom: sCLK-12.0 SuperClock; 20kHz jitter spectrum with standard clock; 20kHz jitter spectrum with SuperClock.

I'd already thought sounded entirely satisfying. Although measuring the sound levels before and after produced identical results, my immediate impression was that the music was now louder and clearer—an impression gained because I could now hear subtle distinctions in the midrange with much greater ease. The bass and treble were not obviously affected, except to the extent that some older, *splashier* recordings, such as Arthur Lyman's 1958 release *Taboo* (CD, Rykodisc 417),

were less disturbing. But good modern recordings, such as "Tin Tin Deo" (1996), from *Oscar Peterson Meets Roy Hargrove and Ralph Moore* (CD, Telarc CD-83399), lost none of their detail. In fact, stereo recordings sounded as good as via the Baetis's own dedicated S/PDIF connection. To see if I might gild the lily, I inserted a JitterBug into the SotM port, but to no avail. It did nothing, good or bad.

With multichannel recordings of complex orchestral music, such as Jordi Savall's of Biber's *Missa Salisburgensis*, with Hespèrion XXI (SACD/CD, Alia Vox AVSA9912), I could have my cake and eat it, too. The Biber was recorded in a large, reverberant space, and I was immediately immersed in its ambience—yet individual voices had presence, and the entire ensemble was cohesive. Through the standard USB connection, the distinction between direct and reflected sound was confused; switching to the SotM connection was like having the optometrist find the *just right* corrective lens: Everything snapped into place.

All of this comes at a cost. The list price of the tX-USBhubIn is \$350, and the sCLK-12.0 SuperClock costs \$500.⁴ You might want to start with just the SotM tX-USBhubIn, and see if it whets your appetite for more. I swallowed both whole and found them very satisfying.

4 At the time of writing, the US distributor offered a special introductory price for the tX-USBhubIn, and promised a similar special price for the as-yet-unlisted sCLK-12.0 SuperClock.

JL AUDIO FATHOM f113v2 POWERED SUBWOOFER

Are subwoofers accessories? I think so. They're important to home-theater fans, but many audiophiles loyal to two-channel stereo refuse to consider them, even when their preferred speakers are quite limited in bass power and extension. Perhaps bass isn't all that important to them, or perhaps they're daunted by the complexity of properly setting up a sub. I lived for years without a sub in my main system, in Manhattan. My Connecticut system included subs because I sometimes use it to watch movies—but with my NYC rig including three Bowers & Wilkins 802 Diamonds and a pair of 804 Diamonds, I did not lack for bass.

Or so I thought until late 2006,

when I reviewed the predecessor of JL Audio's Fathom f113v2, the Fathom f113⁵ (which I'll now call the v1). The v1 didn't so much give me more bass as *better* bass. I was sort of pleased with Automatic Room Optimization (ARO), its one-band auto-equalization

Are subwoofers accessories? I think so.

software, which handily dealt with a 50Hz room mode. But, over time, I came to rely on outboard EQ in the form of DSPeaker's Anti-Mode 2.0 digital room equalizer or Dirac Live. Apparently, my room needed more help than any single-band filter can supply.

Enter the Fathom f113v2 (\$4500),

with *Digital Automatic Room Optimization* (DARO)! Aside from its new EQ software, the f113v2 is almost identical to the v1, with some subtle changes in the I/O panel on the back and the controls across the top front. Under its hood, the v2 boasts 3000W RMS short term, compared to the v1's puny 2500W, and its single, front-firing, 13.5" driver has a modified suspension for greater linearity and lower distortion. In addition, the v1's circuitry has been reconfigured so that no audio signal is routed through the v2's control panel, and all small-signal circuits are contained in a cast-aluminum housing attached to the rigid rear-panel heatsink. Finally, because EQ is now

5 See my column in the November 2006 issue: www.stereophile.com/musicintheround/1106mitr/index.html.



ALL WILL
BECOME
CLEAR...



PLATINUM II

THE UNVEILING AT
CES 2016

LAS VEGAS, JAN. 6-9, 2016, SUITE 29-140

monitordaudiousa.com
kevro.com

Visit us at CES'2016 VenetianTower Suites 35-307 and 35-309

The gap between analog and digital
just got wider, taller and deeper.



You love analog, we love analog. So to mark our 20th anniversary, Lamm Industries is introducing a product dedicated to the format and the people who love it—the three-chassis, dual-mono Lamm LP1 Signature phono preamplifier.

Gentlemen, start your turntables.

Lamm Industries, Inc. | 1.718.368.0181 | www.lammindustries.com

accomplished by DARO, digital-signal processing (DSP) has supplanted many analog components, presumably leading to improved unit-to-unit matching and product reliability.

DARO differs from ARO in several ways. Instead of a single filter, it has 18 bands of cut-only correction, with automatic output-level realignment post-EQ. Each band is adjusted independently by the DSP. In addition, microphone gain and output levels are adjusted automatically, without user effort, which results in greater ease of use and, more important, more accurate and consistent results.

I placed the v2 in the same spot just vacated by the v1, measured its response, then ran DARO. Because ARO and DARO address only peaks, that position for the sub was chosen to minimize, as much as possible, troughs in the frequency response. (True nulls are bottomless pits, and are thus uncorrectable.) DARO was easier to operate than ARO, especially for anyone who's used the latter. You simply set the provided calibration microphone at the listening position, push a button, and get out of the way. Band-limited pink-noise pulses are pumped through sub and room for a couple of minutes. That's it!

The measured and audible results were much better than I could get with my v1, and all previously observed peaks were corrected. As before, the payoff was not more bass (although that was available on demand): The v2's improvement over the v1 was the complete disappearance, from my conscious awareness, of the subwoofer's existence. Switching from five full-range channels to five channels crossing over at 40Hz to the f113v2 produced greater clarity below 100Hz, as the main speakers were relieved of powering the bottom end (perhaps resulting in reduced Doppler distortion?), and the low bass was cleaner, due to the f113v2's more advantageous position in the room and more efficient EQ. A win-win.

There was more. JLA's Fathom subs can be daisy-chained, allowing DARO to handle as many as you can afford. If you have two f113v2s, the recommended arrangement is to run DARO on the first and set up the second sub as a slave. The first v2 will EQ the two subs' combined output. In my situation, the second sub was a v1; I was advised by JL that "the gain structure for the slave paths is different



The JLAudio f113v2 front bears the controls and is normally covered by a sturdy grille. The rear panel (bottom) sports the connections.

It's hard to imagine listening without at least one Fathom f113v2.

between the V1 and V2. As such, run your V1 in Master mode with all signal processing defeated and adjust the Level control (in Variable gain mode) as needed to match the V2 master." This worked flawlessly, but with most recordings, switching from one to two JLA subs made no audible difference to me.

I do understand that those who play different music (eg, techno), and/or who play it much louder than I do, might appreciate the additional power. When I *could* detect differences, they were most apparent with recordings made in highly reverberant spaces in which the venue's modes are in the ultralow, nearly subsonic range.

In stereo, it was the Cowboy Junkies' familiar *The Trinity Session* (CD, RCA 8568-2-R). In multichannel, try the Berlin Brass's disc of music by Gabrieli: *Berliner Dom: Music for Brass & Organ* (SACD/CD, Pentatone PTC 5186509), and that spectacular recording of Biber's *Missa Salisburgensis*. With these, I was embraced by the sense of place even before the music began, and remained engaged more deeply because of it.

The verdict is easy. JL Audio's Fathom f113v2 is everything good from the Fathom f113 and more. DARO is a huge and needed improvement, and the backward-compatibility with the v1 is appreciated. In 2006, I hadn't thought I needed a subwoofer—and certainly not two. Now, it's hard to imagine listening without at least one Fathom f113v2. This is one *accessory* that does realize its potential to improve my system.

Next Time in the Round

I look forward to reporting on a new network-based product from Merging Technologies, the NADAC Multichannel-8—and, from exaSound, the Play-Point Network Audio Player. Better get your Ethernet tuned up. ■

Kalman Robinson plunges down slippery sonic slopes in both his Manhattan apartment and his weekend retreat in New England.

CONTACTS

AudioQuest

2621 White Road
Irvine, CA 92614
Tel: (949) 585-0111
Web: www.audioquest.com

JL Audio

10369 N. Commerce Parkway
Miramar, FL 33025-3962
Tel: (954) 443-1100
Fax: (954) 443-1111 (general),
443-1108 (tech support)
Web: www.jlaudio.com

SOTM

202, Suseopla
(1557, Ssangyong-Dong)
84-9, Wolbong 4-ro, Seobuk-Gu
Cheonan-si, Chungnam
Korea (P.31171)
Tel: (82) 41-576-7663
Fax: (82) 41-576-7664
Web: www.sotm-audio.com
US distributor: Simple Design
Web: www.sotm.sonore.us

AXPONA

AUDIO EXPO NORTH AMERICA

LISTEN CAREFULLY.

Discover the most personal listening experiences.



APRIL 15-17, 2016
THE WESTIN O'HARE ROSEMONT
ROSEMONT/CHICAGO, IL

Be a part of North America's premier audio expo. Get up close and personal with hundreds of the finest brands in consumer audio. From hi-fi to headphones, to LPs and accessories, you'll find everything you need to create your ultimate listening experience.

For Ticket Info:

www.axpona.com

American Handcrafted Sound.

Rogers
HIGH FIDELITY

BE SURE TO VISIT US IN ROOM 29-124
IN THE VENETIAN HOTEL AT CES IN LAS VEGAS
FROM JANUARY 6TH THROUGH JANUARY 9TH

At the heart of every amplifier is the power supply.



Our heart is **STRONG.**

- 1800 Watt Linear Power Supply Design for 200 Watts peak output per channel
- Provides 100 times headroom above max power output
- Superb transient response and musical tone
- Custom wound
- All silver plated
- Teflon jacketed wire for reliability and low capacitive reactance to transients
- Massive 10 pounds
- Built to Mil-Spec standards

SEARCH **#ROGERSHIGHFIDELITY** FOR FULL STORY



OUR PRODUCTS ARE **GUARANTEED FOR LIFE**



BORN IN WARWICK, NY | 845-987-7744 | ROGERSHIGHFIDELITY.COM

Upgrade My Power Cable?



Your power amplifier, power conditioner and subwoofer are hungry. Very hungry for power! That's why industry veteran designer, Jay Victor, created the Pangea Audio AC-9 MkII power cable. To feed your power-hungry gear all the current they need.

Pangea Audio's AC-9 MkII is a massive seven-gauge cable. Size, however, isn't everything. Jay also engineered the conductors and the shielding to minimize interference from electronic noise in your room. Jay didn't stop there. He used a combination of 99.99% pure oxygen-free copper and US-made Cardas Grade One Copper – which many experts rate the 'best copper on the planet.'

Is the Pangea AC-9 MkII Overkill?

Not for the serious audiophile who wants the most from his demanding high-end audio gear.

Plug it in and you'll discover why George K. of Newark Delaware called it, "Easiest upgrade I ever made."

Try Pangea AC-9 MkII Cable Risk Free!

Order a Pangea Audio AC-9 MkII now and try it for 30 days. If you're not completely blown away by the improvement return it for a full refund.

Pangea Audio AC-9 MkII AC to IEC seven-gauge upgrade power cable **1.0M length, Regular \$250, Now \$99.95; 1.5M \$300/\$135.00; 2.0M \$400/\$175.00***



To Order Call (800) 942-0220 or Visit audioadvisor.com

*Longer lengths at audioadvisor.com Engineered in USA. Audio Advisor, Inc. 3427 Kraft SE, Grand Rapids, MI 49512
© Pangea is a registered trademark of WS Distributing, LLC. © 2015 Audio Advisor, Inc. *Free Shipping in Continental US, PR & APO/FPO Boxes



Rollin' & Tumblin'

THE BLUES
JOURNEY OF
BOB MARGOLIN

BY
**ROBERT
BAIRD**

Let's face it: If you're one of those sedentary audiophilic types or you have a genetic disposition to growing pear-shaped later in life (genetic . . . right, that's it: nothing to do with couches or hooch), it's wise to adjust your fashion sense accordingly. And nothing says "portly gentleman in disguise" like a guaya-

bera—a shirt that, I have just discovered, blues guitarist Bob Margolin and I both love. He even wears one on the cover of his new record, *My Road*.

"I love 'em because my manager thinks I'm dressed up when I wear them."

"My wife thinks the same thing," I chime in.

"Well, we're in the business of fooling women, right?"

Rediscover Music /

Technics

Rediscover Music

Music is borderless and timeless,
touching people's hearts across cultures and generations.
Introducing the Premium Class C700 Series:
four hi-fi components, each beautifully in tone with the other,
combining to deliver absolute purity of sound
from within an exquisitely crafted system.

Let us take you on your journey to rediscover music.



Now available at our partners:

The Audio Den, Lake Grove, NY
Definition Audio, Santa Monica, CA
Intersect, Coral Gables, FL
Adirondack Audio, Queensbury, NY
A/V Showcase, Ann Arbor, MI
Hi-Fi Heaven, Green Bay, WI

Fidelis A/V, Nashua, NH
Value Electronics, Scarsdale, NY
Crescendo Fine Audio, Denver, CO
Viva Hi-Fi, Vienna, VA
Audio Vision SF, San Francisco, CA

technics.com

Margolin says he slips four guayaberas into his guitar case when he goes on tour.

"What I really like is the four pockets. I can slip a slide, a capo, and a pick into them. It's really convenient."

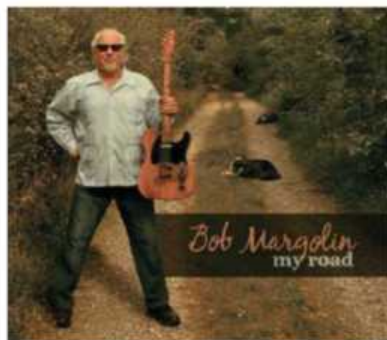
An audiophile and a longtime *Stereophile* reader, the dapper Margolin, often known by his nickname, "Steady Rollin'" is most famous for playing guitar in the last Muddy Waters Band (1973–1980), and has soldiered on in the blues ever since. If Robert Johnson and the Delta players were the first generation of original blues players, and Muddy Waters, Howling Wolf, and the recently deceased B.B. King were the second, then Margolin, at 66, fits squarely into the rapidly diminishing third generation as an elder statesman.

This morning, he's just gotten back to his home in High Point, North Carolina—best known musically as the childhood home of John Coltrane—after a run up north to hook up with Washington, DC–based blues-and-roots band the Nighthawks, for a string of dates in New York and New England. Two days after we spoke, he was leaving for Finland to play a private party. In the blues world, age has certain advantages.

"Right now, I'm walking up and down my long driveway with the dogs after having about a 22-hour day," Margolin says. "The dogs are focused on their ball. They'd give up their lives for me, as long as there's no ball in the room."

The journey to *My Road* began when Margolin took on a new manager, Pat Morgan, who'd managed two of the guitarist's cohorts in the Waters band: pianist Pinetop Perkins and drummer Willie "Big Eyes" Smith. She had a hand in bringing in Michael Freeman, a well-known producer and engineer of blues recordings who's made albums with Hubert Sumlin, Lonnie Mack, and Bo Diddley, among others, and who produced *Joined at the Hip*, a 2010 session with Smith and Perkins. Several of Perkins's out-of-print albums, originally recorded for Antones Records, have just been reissued by New West; when Margolin mentions him, we both chuckle in fond remembrance.

"He was younger than I am now when I first knew him. When I joined Muddy Waters's band, he was 60, and I'm 66 now. I thought he was pretty old—and he was—but he was young at heart 'til the end. He had the best death I've ever heard of. About three weeks



after the Grammy Awards, he was in his assisted-living place in Austin, and he woke up and played some solitaire, like he liked to do. He always slammed the cards down real hard on the table, like he was a tough guy—which he probably might have been at one point in his life. Anyway, he said, 'I think I'll take a nap.' About an hour later, somebody checked on him, and he was lying on the bed with his hands behind his head and a big smile on his face. At 97, the life had just gently gone out of him."

Years ago at South by Southwest, I was standing on the upper floor of an Austin hotel, waiting for an elevator. The bell dinged, the doors swung open, and there was Pinetop Perkins, each of his arms around a much younger woman. He gave me a huge grin.

"His manager would get mad at him for kind of talking shit to the women or touching them inappropriately," Margolin says, then launches into a gruff imitation of Perkins's voice: "If I was younger, I'd really do somethin' with you, but now every time I try to diddle, it bends in the middle." [laughter]

My Road is to be released on January 8, Elvis Presley's birthday. The album was demoed at Margolin's house using his MacBook Pro, then recorded at Fidelitorium Recordings, a studio in Kernersville, North Carolina, owned by Mitch Easter, who has produced R.E.M. and was a member of Sneakers. The album was recorded on tape, dumped into Pro Tools for mixing, then back out to tape before it was mastered. Margolin says recording engineer Mark Williams uses old Dolby units that give the sound "a certain warm sparkle to it and a very sweet high end." *My Road* will be available on CD or MP3, but was recorded at 24-bit/48kHz so that it could be mastered for later release on a high-resolution format. Margolin says he might talk to Chad Kassem, of Analogue Productions, about that possibility.

"The studio also has these \$10,000 Apogee converters, a really nice, big

board, all kinds of good microphones. We worked very hard, but it was in great circumstances. In the '60s, Mose Allison called records 'a very expensive business card.' You don't necessarily make money from it unless you're some kind of big star, which in the blues world, big stars are like a jumbo shrimp—it's still not very big.

"On this record, I really wanted to make no compromises, soundwise or in terms of material. At my age and at this time in my life, and with the music world being as challenging as it is—more so than it's ever been, I think—I really needed my best effort. It was time to make one that would be a break from what I've done before. I've made a bunch of records, some with very original tunes that are not necessarily blues songs, but this time I had to really reach deep inside. I had no idea what I was going to write about. I'm on the bandstand or traveling all the time, so what am I gonna do, write 'This WiFi sucks' or something?"

After the six tunes Margolin wrote, another song on *My Road* comes from his longtime friend Terry Abrahamson, who wrote what is perhaps the album's bluesiest number, "Heaven Mississippi," which Margolin once demoed and pitched to B.B. King.

"There's two guitars on the demo. One is a little version of B.B. King's single-note playing and some chords, and the other one is open-tuning Mississippi slide—except one note is flat, so it's like a minor-key slide, which is really eerie. It's something that I heard on a Muddy Waters record, and I think he was just out of tune, but it's hard for me to imagine that because he had such good pitch. With a seven-piece band up there, including three guitars and a bass, Muddy could hear if somebody was out of tune, and tell them which string was sharp or flat."

The late Sean Costello, who was diagnosed as bipolar and died from what was ruled an accidental drug overdose, wrote "Low Life Blues," a song about the tortures of drug addiction that Margolin covers on *My Road*. Tad Walters, who plays harmonica and guitar in Margolin's bass-less trio, wrote "Ask Me No Questions," which Margolin says reminds him of a Hank Williams song.

During the making of *My Road*, Margolin had an epiphany about his chosen instrument. "I kinda fell in love with one of my guitars. I have a really old Telecaster. It's like one of the

ACOUSTIC SOUNDS SUPERHIREZ™

DSD Downloads & More — Your One-Stop Download Shop

MYTEK STEREO

CHORDETTE

AURALIC



192-DSS-DAC

E MYTEKSBP

Available in Silver and Black

2 QUTE DAC

E 2QUTES

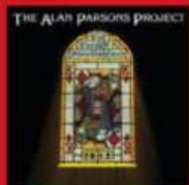
Available in Silver and Black

VEGA

E VEGA

DSD Compatible Audio Processor

DON'T MISS OUT ON THE BEST SOUNDING DOWNLOADS!



THE ALAN PARSONS PROJECT
I Robot



THE ALAN PARSONS PROJECT
The Turn Of A Friendly Card



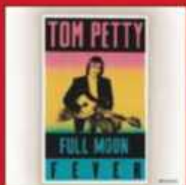
AHMAD JAMAL
Ahmad Jamal's
Alhambra



VARIOUS ARTISTS
17th Annual Blues Masters
at the Crossroads



THE ROLLING STONES
Let It Bleed



TOM PETTY
Full Moon Fever



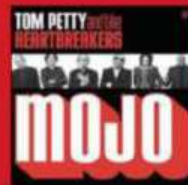
TOM PETTY & THE
HEARTBREAKERS
Damn The Torpedoes



TOM PETTY & THE
HEARTBREAKERS
Into The Great Wide Open



TOM PETTY & THE
HEARTBREAKERS
Tom Petty & The Heartbreakers



TOM PETTY & THE
HEARTBREAKERS
Mojo



THE CARPENTERS
Singles 1969-1981



MICHAEL JACKSON
Thriller



MUDDY WATERS
Folk Singer



ERIC CLAPTON
Slowhand



LYNYRD SKYNYRD
Pronounced Leh-nerd
Skin-nerd



THE WORLD'S LARGEST SELECTION OF AUDIOPHILE RECORDINGS

ACOUSTICSOUNDS.COM | SUPERHIREZ.COM | 800.716.3553

first ones—or, at least, most of it is or I couldn't have afforded it. The serial number, before it rusted over, was like 590, something like that. I just love that guitar. In the last couple years, any time I try and pick up another one that I have, even real good ones, nice old ones, that one says 'Me! Me!' Before, they never cared if I spent the night with another one. This one does."

Margolin calls this 1951 relic a "beautiful guitar that stays in tune and never breaks strings." He even went so far as to sell most of his other guitars, and used the windfall to finance the production of *My Road*.

Like every Margolin record, *My Road* deliberately echoes the style and approach he learned at the feet of the master. When Margolin joined the Waters band in August 1973, it consisted of drummer Willie Smith, bassist Calvin "Fuzz" Jones, pianist Pinetop Perkins (who had replaced Otis Spann), harmonica player Mojo Buford (who'd replaced Little Walter), and the great Hollywood Fats (Michael Mann) on guitar. Later additions were Luther "Guitar Jr." Johnson and, on harmonica, Jerry Portnoy. Asked what resonates most with him now about his years with Waters, Margolin doesn't hesitate.

"It was a musical foundation. He had his own style, he was literally one of the best in the world at what he did, and I got to learn from him like a master from an apprentice, instead of the way people study music in school, or even just learn it themselves on a bandstand. Both he and Pinetop used to say something interesting: 'I play for tone.' What does that mean? It could mean that there is a tonal center in what they do, like the key that they're in. It could mean that they like to have a rich, fat tone on their voice or their instruments. I'm not sure. I never asked him, 'What do you really mean by that?' I'm just kind of guessing, but I heard each of them say that separately. I also heard Muddy say, 'You know, my music is so simple, but so few people can play it right.'"

As a musician who cares about recorded sound, Margolin has opinions on the sound of blues records, old and new. He mentions Muddy Waters's 1964 session, *Folk Singer*, as an example of a great-sounding record in a genre in which too many sessions were cut quickly, with no budget, in rudimentary studios by engineers with minimal training and worse ears. To generalize just a tad, the object of most blues



Bob & Muddy, circa 1978.

recordings was not fidelity but feeling.

"I had the opportunity when I was playing with Muddy to ask him, 'How did you guys record? How were those old records made?' And he said that they had a recorder that had three tracks and three microphones. And they would put one in front of the singer, one near the piano, and one near the upright bass. And everything else—the harmonica, electric guitars, and the drums—would all get picked up ambiently, and that would be the mix, that would be the balance. Very often, the singers are loud on those records, but it sounds good. They used good mikes and analog tape, so they sound pretty warm. Muddy's 'Mannish Boy,' the original version, has the most gorgeous kick-drum sound to it. It sounds like a drum in a room instead of a basketball."

In 1976, Waters left Chess Records (which the Chess brothers had sold to GRT in 1969) and signed with guitarist Johnny Winter's Blue Sky label, for which he made three studio albums, all produced by Winter: *Hard Again* (1977), *I'm Ready* (1978), and *King Bee* (1981). Margolin, who played on all three, was tapped to co-produce the 2004 reissues of these records.

"When *Hard Again* was being made, I asked Johnny Winter, 'How come you don't turn up the bass?' And he said, 'When I heard records as a kid, I couldn't hear the bass anyway, so I really don't want to hear it very loud now.' When we remastered them, I just put a little more bass response in it, and he didn't mind. When we made those records, Johnny had two room mikes near the ceiling, very deliberately. He used them more than most people do.

A lot of people will have a couple of condenser mikes, maybe crossed, far away from the band, to get an ambience, and they can put in as much or as little as they want. He put in more than most people, and it really sounded like a band in a room. It also sounded like we were having fun, which we were. It was a great mix."

In the past few years, Margolin, who is also a principal in the Vizztone label, has been passing on his accumulated knowledge in workshops conducted under the auspices of the Pinetop Perkins Foundation at the Delta Blues Museum, in Clarksdale, Mississippi. Saying he loves to watch his students' reactions when he recites the words to Muddy Waters's "Hoochie Coochie Man"—which, oddly enough, has the same cadence as a lot of hip-hop numbers—Margolin is clearly committed to trying to create a fourth generation of genuine blues players.

"At first it was just gonna be piano. So I said, 'Why don't we do a guitar class and a harp class?' And now the guitar class is by far the biggest. It's mostly teenagers that come down. We give scholarships to some kids. Some of them are insanely talented and have old souls. They value that music, but they also live in the modern world, and sing and play about what's happening to them. There's no way to explain how good they are, or how deep some of these kids play.

"Of course, there's plenty of kids who just want to plug into pedals and turn up and shred. But there's a really exciting one, a young man that's gonna be a star. He started there when he was 11 and he's 16 now. His name is Christone Ingram, and they call him 'Kingfish.' He lives in Friars Point, Mississippi [the only place Muddy Waters ever saw Robert Johnson, who also mentioned the town in several of his songs]. He's starting to get called for festivals, and when the Delta Blues Museum won an award, he went to the White House and played as part of that band.

"The first year Christone was in class, I said, 'Have you ever heard of Freddy King?' He was, like, 11, and he went, 'No.' And I said, 'Here's a picture of him, and you step into your solos the same way he did.' He's a kid, but he just understands the language completely naturally. And now he's started becoming a good singer. We're good friends, and when we play together, time goes away and age goes away. Nothing hurts, and nothing else matters." ■

2012 PRODUCT OF THE YEAR AWARD WINNER!

REGA RP6 TURNTABLE ▶ WITH REGA EXACT CARTRIDGE

ONLY \$1990.00

"I've had many turntables,
some costing tens of
thousands of dollars; but I've
never had a combination
that made me want to
listen to records more"

- ANDY SCHAUB,
Positive Feedback
May/Jun 2012



WITHOUT CARTRIDGE ONLY \$1495.00



REGA RP10 TURNTABLE
\$5,495



REGA RP8 TURNTABLE
\$2,995



REGA RP3 TURNTABLE \$895
*W/ELYS \$1095



REGA RP78 TURNTABLE
\$645.00 *78 RPM ONLY



REGA RP1 PERFORMANCE PACK
\$640



REGA RP1 TURNTABLE
\$449



Toll Free 800.229.0644 | Phone 612.378.0543 | Fax 612.378.9024
Email info@NeedleDoctor.com | 6006 Excelsior Blvd., St. Louis Park, MN 55416

**WORLD'S LARGEST SELECTION
OF TURNTABLES, CARTRIDGES, AND NEEDLES!**

JERRY RASKIN'S NEEDLEDOCTOR

Established 1979

WWW.NEEDLEDOCTOR.COM

ALL NEW RESONANCE OPTIMIZED EBONY

NEW CLEARAUDIO MAESTRO V2 EBONY ▶

ONLY \$1200.00

"As musical as they come, the **MAESTRO V2 EBONY** should be required listening for moving-magnet and moving-coil fans alike"

"Clearaudio has crafted a better cartridge from every sonic perspective."

- NEIL GADER, *The Absolute Sound*
40th Anniversary Issue, July 2013



CLEARAUDIO DA VINCI V2
PHONO CARTRIDGE **\$5,500**



CLEARAUDIO STRADIVARI V2
PHONO CARTRIDGE **\$3,750**



CLEARAUDIO CONCERTO V2
PHONO CARTRIDGE **\$2,750**



CLEARAUDIO TALISMANN V2 GOLD
PHONO CARTRIDGE **\$1,750**



CLEARAUDIO CONCEPT MC
PHONO CARTRIDGE **\$1,000**



CLEARAUDIO VIRTUOSO V2 EBONY
PHONO CARTRIDGE **\$900**



CLEARAUDIO ARTIST V2 EBONY
PHONO CARTRIDGE **\$600**



CLEARAUDIO CONCEPT V2 MM
PHONO CARTRIDGE **\$250**



Toll Free 800.229.0644 | Phone 612.378.0543 | Fax 612.378.9024
Email info@NeedleDoctor.com | 6006 Excelsior Blvd., St. Louis Park, MN 55416

**WORLD'S LARGEST SELECTION
OF TURNTABLES, CARTRIDGES, AND NEEDLES!**

INDUSTRY LEGEND!

KIMBER KABLE HERO AUDIO INTERCONNECTS ▶

ONLY \$219/ meter pair

"Correctly presenting the harmonic structure and emotion of the actual performance, as well as giving you holographic imaging, detail and bass impact."



KIMBER KABLE

**HANDCRAFTING
CABLES
SINCE 1979**



KIMBER KABLE
TIMBRE AUDIO
INTERCONNECTS

\$147 meter pair

KIMBER KABLE
PBJ AUDIO
INTERCONNECTS

\$117 meter pair

KIMBER KABLE
TONIK AUDIO
INTERCONNECTS

\$84 meter pair



KIMBER KABLE 8TC SPEAKER CABLE

\$413 8ft pair

KIMBER KABLE 4TC SPEAKER CABLE

\$235 8ft pair

KIMBER KABLE 8VS SPEAKER CABLE

\$193.80 8ft pair



Toll Free 800.229.0644 | Phone 612.378.0543 | Fax 612.378.9024
 Email info@NeedleDoctor.com | 6006 Excelsior Blvd., St. Louis Park, MN 55416

**WORLD'S LARGEST SELECTION
OF TURNTABLES, CARTRIDGES, AND NEEDLES!**

DYNAMIC, TRANSPARENT, & PROFOUNDLY MUSICAL

NEW ROGUE AUDIO SPHINX INTEGRATED AMPLIFIER

ONLY \$1295.00 (Available in Black or Silver)

Needle Doctor is pleased to announce that Rogue Audio's best selling integrated amplifier just got a facelift! A stylish groove in the faceplate will commemorate the latest technical revisions. The new Sphinx will include:

- Improved 1W headphone circuit
- Improved phono circuit with 6dB additional gain (same phono as Cronus II)
- Addition of a mute function on the remote (Sphinx w/remote \$1395)
- Lower noise floor



ENTIRELY BUILT AND DESIGNED IN THE USA



**ROGUE AUDIO'S GEAR IS ENTIRELY DESIGNED
 AND HAND-BUILT IN THE USA**



NEW ROGUE AUDIO RP-5 PREAMPLIFIER
 w/ Tube Headphone Amp & MM/MC Phono Pre
\$3,495



**NEW ROGUE AUDIO
 CRONUS MAGNUM II**
\$2,495



**ROGUE AUDIO PERSEUS MAGNUM LINE/
 PHONO PREAMP**
\$2,195



**ROGUE AUDIO STEREO 100
 POWER AMP**
\$3,495



**ROGUE AUDIO
 PHARAOH INTEGRATED AMP**
\$3,495



ROGUE AUDIO ATLAS POWER AMP
\$1,995



Toll Free 800.229.0644 | Phone 612.378.0543 | Fax 612.378.9024
 Email info@NeedleDoctor.com | 6006 Excelsior Blvd., St. Louis Park, MN 55416

**WORLD'S LARGEST SELECTION
 OF TURNTABLES, CARTRIDGES, AND NEEDLES!**

HERB REICHERT

Technics Premium Class SB-C700

LOUDSPEAKER

1918: Konosuke Matsushita founds Matsushita Electric Industrial Co., Ltd. (Japan).

1965: Matsushita Electrical Industrial Co. (Japan) introduces the first Technics product, a two-way acoustic-suspension loudspeaker designed to compete with the increasingly popular line of sealed-box speakers made by Acoustic Research (US).

2008: Matsushita renames itself Panasonic Corporation.

2010: Panasonic halts production of the revered Technics SL1200 turntable, thus ending an era and the Technics brand name, whose wide-ranging audio products had become synonymous with smooth sound, elegant styling, and rugged construction.

2014: Panasonic revives the Technics brand.

2015: I listen carefully as Michiko Ogawa—former Technics engineer, renowned classical and jazz pianist, and current director of Panasonic's Technics division—speaks these words: “In honor of our 50th anniversary, we at Technics are determined to blaze a new audio path and deliver *new and emotionally engaging musical experiences* for another 50 years.” (my emphasis)

All the turntables of my youth had natural wood plinths and staid, European-looking chassis. When Technics introduced the sleek, futuristic-looking SP-10 direct-drive turntable in 1969, and followed that in 1972 with the snappy, pro-style SL1200, I scratched my head. I was a confirmed Dual 1019–Shure cartridge kind of guy. But in 1974 I moved from Chicago to New York, and all my new reggae/ska/punk friends were spinning LPs on silver Technics 1200s. Then, in 1980, a stoned party guest punked my Dual, so I abandoned wood plinths and bought a shiny new Technics SL1200 Mk.2 at J&R Music World. The salesman swore out loud: “Your drunk buddies will never break this one!”

I remember a demonstration at Manhattan dealer Sound by Singer that featured a high-powered, DC-coupled, class-A Technics power amplifier, the SE-A1. At the time, I thought it was the most beautiful-looking and -sounding amplifier I had ever experienced. I remember Andy Singer saying that he loved it, too, but that he couldn't sell it

because American high-end buyers think megabig Japanese receiver manufacturers make only mid-fi products. “Shame on them,” I mumbled. “Their loss.”

Description

I urge you now to take a moment to look at the photos and contemplate the Grecian form of Technics' new stand-mounted loudspeaker, the Premium Class SB-C700 (\$1699/pair). Note its bulging, wider-in-the-middle profile when viewed head-on. Like the Doric columns supporting the Parthenon, the walls of the SB-C700's cabinet thicken toward the middle (in this case, to absorb and diffuse internal resonances). Technics calls this their High Rigidity Entasis Form Cabinet. Its MDF walls range in thickness up to 42mm, and it weighs 18.7 lbs and measures 13.1" high by 8.9" wide by 11.2" deep. On the rear, note the substantial binding posts and the opening to its parabola-shaped (in cross-section: it flares at both ends) port. Note the sticky, sturdy rubber feet on the bottom. Pythagoras would be impressed.

Technics has used flat cones (I'll come back to that oxymoronic description) and coaxially mounted tweeters in their top speakers for decades. But, like the company's aforementioned class-A amplifiers, those high-tech speakers simply never caught on outside Asia. In the late 1980s, Technics' beautiful and very similar (but wood-veneered) SB-RX50 speaker visited the high-end markets of the US and UK, in hopes of giving those nations' domestic brands some worthy competition. But despite rave reviews, the handsome, well-made SB-RX50 failed to make headway. (Historically, Technics has made many different high-end products, but only their classic turntables and tape decks have earned appropriate respect in the US and Europe.)

Just like the SB-RX50, the mid/woofer of the new Technics SB-C700 has a flat, circular diaphragm, supported at its inner and outer edges by concentric rubber surrounds. That diaphragm is driven from behind—at its “geometric balance point,” according to Technics—by a separate “coupling” cone. Attached to the cone is a short-voice-coil former with

SPECIFICATIONS

Description Two-way, coaxial, rear-ported loudspeaker. Drive-units (coaxial): 0.75" (19mm) dome tweeter, 6.5" (160mm) flat woofer. Crossover frequency: 2.5kHz. Frequency response: 40Hz–100kHz, –16dB; 45Hz–

80kHz, –10dB. Sensitivity: 85dB/2.83V/m. Nominal impedance: 4 ohms. **Dimensions** 13.1" (336mm) H by 8.9" (229mm) W by 11.2" (286mm) D. Weight: 18.7 lbs (8.5kg). **Finish** White or black.

Serial numbers of units reviewed WX5AA001035 (both), “Made in China.” **Price** \$1699/pair. Approximate number of dealers: 10. **Warranty:** 3 years, parts & labor. **Manufacturer** Technics,

Panasonic Corporation of North America, Two Riverfront Plaza, Newark, NJ 07102-5490. Tel: (800) 211-7262. Web: www.technics.com.



Technics



ALL YOU NEED TO DO IS **LISTEN**



REX II Power Amplifier



REX II Preamplifier
(Power Module)



REX II Preamplifier
(Control Module)

its own accordion-fold spider. This driver's flat diaphragm, which measures 6.5" in diameter, is a sandwich of two sheets of carbon cloth over a honeycomb aluminum core. (The SB-RX50's driver measured 9" in diameter and used a one-piece cross-carbon diaphragm.)

Also unlike the earlier SB, which had flat-diaphragm mica tweeters with samarium-cobalt magnets, the tweeter of the new SB-C700's is a 0.75" aluminum dome with an even more powerful neodymium magnet. The entire coaxial tweeter-woofer assembly is mounted on an unusually massive, "energy dissipating" die-cast aluminum frame.

Listening

I auditioned the Technics SB-C700s in a variety of rooms, large and small, using a wide range of amplification. In each context, they sounded best from farther out in the room than I usually place speakers: a little wider apart than my favorite monk's-cell distance, and pointed directly forward, with no toe-in. In every room, the SB-C700s projected not the biggest but perhaps the most properly scaled soundstage I have encountered. Images were the opposite of ghostly; soundstages had a kind of linear tangibility, seeming more firm around the edges than usual. Energy projection in my smallish room was more even and businesslike than I'd



Like Doric columns supporting the Parthenon: a pair of SB-C700s.

The walls of the SB-C700's cabinet thicken toward the middle.

experienced before. Dispersion seemed wide in both the vertical and horizontal planes. Impressed by the SB-700s' sound, an audiophile friend said, "Cabinet coloration seems nonexistent." I agreed.

WITH THE LINE MAG-

NETIC LM-518 IA: With any new loudspeaker, it's important that I begin each review session with music I love and an amplifier

whose character is well known to me. To that end, I wired my Line Magnetic LM-518IA reference integrated amp to the Technics SB-C700s, the latter sitting on 24"-high Sound Anchor stands. Then I began with some beautiful black discs from EMI.

Using my multicultural front end of Technics SL1200 Mk.2 turntable, SME M2-9 tonearm, and Soundsmith Carmen cartridge, I enjoyed the Rondo in G, Op.129, "Rage Over a Lost Penny, Vented in a Caprice," from Vol.5 of Artur Schnabel's set of Beethoven's piano music (LP, EMI RLS 769). It left me dizzy and winded. Forward momentum? Feverish pace and rhythm? I could hardly keep up with this fun, sarcastic side of Herr Ludwig. No matter how fast Schnabel played, it was never too fast for the SB-C700s

MEASUREMENTS

I used DRA Labs' MLSSA system and a calibrated DPA 4006 microphone to measure the Technics SB-C700's frequency response in the farfield; for nearfield frequency response, I used an Earthworks QTC-40, which has a 1/4" capsule and thus doesn't present a significant obstacle to the sound.

The SB-C700's voltage sensitivity is specified as 85dB/2.83V/m. My estimate was usefully higher than this, at 87.5dB/2.83V/m. The speaker's nominal impedance is 4 ohms, but as fig.1 shows, the impedance magnitude drops below 4 ohms only in a narrow band in the lower midrange, reaching a minimum value of 3.5 ohms at 215Hz. I would classify the Technics as a 6 ohm load, though there is a combination of

4.9 ohms and a 41° electrical phase angle at 145Hz, suggesting that tube amplifiers would work best from their 4 ohm output transformer taps.

Other than a very slight wrinkle at 600Hz, the impedance traces are free of the discontinuities that would

suggest the presence of enclosure resonances. When I investigated the cabinet's vibrational behavior with a plastic-tape accelerometer, I did indeed find a low-level mode at 600Hz that was present on the top and sidewalls. However, the strongest mode on the top was at 492Hz (fig.2). Given the

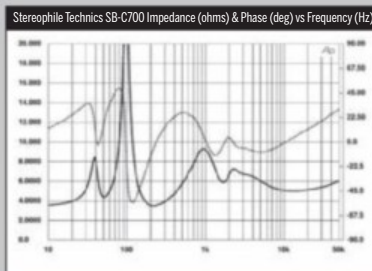


Fig.1 Technics SB-C700, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

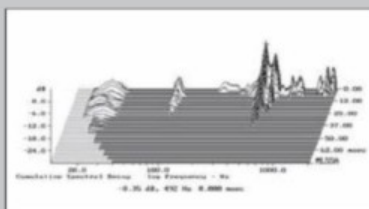


Fig.2 Technics SB-C700, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of top panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).



to expose the exact feel of each keystroke, the precise tone of each note. Throughout this entire Schnabel-Beethoven set, my brain received, grasped, and admired every note, better than with all but a few speakers I have experienced. Pedalwork was vividly clear to the point of being visual—as if I could see the master's shoes touching the brass levers. These Technics speakers had a unique way of presenting piano notes that was extremely close to their live-performance texture.

From another disc of Vol.5, I experienced Schnabel playing the Diabelli *Schusterfleck* (cobbler's patch), on which Beethoven had based his 33 Variations on a Waltz by Diabelli (Op.120), in full, widescreen "texturecolor." And while I was playing Beethoven's "alterations" (Ludwig van's term) for the third time, I realized that Schnabel and the modestly priced Technics weren't just getting the pace, texture, and tone right—they were putting me in touch with the full momentums of Beethoven's mind.

To determine the SB-C700's maximum potential as a reproducer of piano sound, I listened to Todd Garfinkle's glorious recording of Ito Ema playing J.S. Bach's *Goldberg Variations* at Harmony Hall, in Matsumoto, Japan (CD,

M•A Recordings MO24A). I lost some of that goose-bump EMI analog texture, and I missed the force of Schnabel's hair-raising Beethoven-ism, but in return I received the most pure, liquid, golden tones. The tonality of Ema's piano was so mesmerizing that, half the time, I forgot what music I was listening to. I just dreamed about the beauty and elemental force of pianos as human-fashioned instruments of expression.

Going straight from the beauties of Bach and Beethoven to pissing and screaming in hell, I played *Two Penny Opera* by my longtime favorites, the Tiger Lillies (CD, Tiger 009). This (Kurt) Weill-ian, Brecht-ian, British punk-cabaret trio play St. Anne's Warehouse in Brooklyn every year, and I'm always in the fifth or sixth row. Their drummer, Adrian Huge, plays a tiny, toy-sized drum kit. Their bassist, Adrian Stout, plays double bass, musical saw, and Therenin. The group's founding madman is Martyn Jacques, who wears a derby, paints his face white, and sings in a squeaking, squawking, ridiculous falsetto. Jacques also plays toy piano, dime-store guitar, harmonica, ukulele, banjolele, and my favorite instrument of all: accordion. If you're a conservative bourgeois person and/or easily offended, do not buy this

measurements, continued

small radiating area, I doubt that this mode would lead to any sense of mid-range congestion.

The saddle between 45Hz and 55Hz in the impedance-magnitude trace suggests that the 2"-diameter port on the rear panel is tuned to this region.

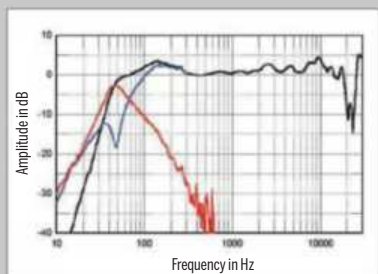


Fig.3 Technics SB-C700, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with nearfield responses of woofer (blue), port (red), and their complex sum (black), respectively plotted below 300Hz, 620Hz, and 300Hz.

The blue trace in fig.3, which shows the nearfield output of the woofer, confirms this tuning, as it has a well-defined notch at 48Hz. (This notch is due to the backpressure from the port resonance holding the woofer diaphragm stationary.) The port output itself (fig.3, red trace) peaks in textbook fashion between 40 and 60Hz, and its upper-frequency rolloff is clean. The

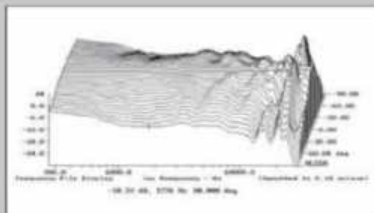


Fig.4 Technics SB-C700, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90-5° off axis, reference response, differences in response 5-90° off axis.

black trace below 300Hz in fig.3 shows the complex sum of the woofer and port nearfield responses. The broad peak between 70 and 300Hz is entirely an artifact of the nearfield measurement technique, the SB-C700's low frequencies extending at full level to below 80Hz, with the output down by 6dB at the port-tuning frequency and rolling off with the usual 24dB/octave

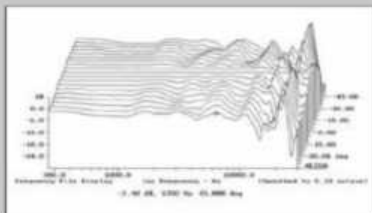


Fig.5 Technics SB-C700, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45-5° above axis, reference response, differences in response 5-45° below axis.



B.B. King
Freddie King
Albert King
Bascom King?

The new standard in headphone amplification, designed for us by world-renowned designer Bascom King. Featuring a hybrid design with tube input and MOSFET single-ended class-A output, The King will drive any headphone from low-Z to high-Z, and even Jay-Z. Limited quantities available. Made in the USA with parts sourced throughout the Kingdom.

It's great to be King.

www.audeze.com

CD! Jacques's unique pan-genderism makes the Pogues' Shane MacGowan look and sound like an archdeacon. The Tiger Lillies take rudeness and avant-garde provocative-ness to the highest levels of smirking irony and biting social parody.

I doubted the straitlaced, extremely neutral Technics speakers could handle such twisted madness, but they did . . . at least sort of. The SB-C700s turned this stinking *Two Penny Opera* into a slightly more fragrant package of honky-tonk cabaret—but still with an enjoyable dose of wink-wink tongue and cheeky.

Two Penny Opera is a "live in the studio" album recorded at London's Pathway Studios. Much to engineer Jim Custence's credit, the recording presents a convincing illusion of a fully energized smoky cabaret with only the dimmest colored lights for guidance. Custence has struck an enjoyable balance between closely miked presence and more distantly miked room sound. The SB-C700s displayed the room volume very realistically, but played the Tiger Lillies' artistic expression a little straighter, with a little less chaotic, shambolic revelry than I prefer. I think the SBs couldn't help it: More than any other audiophile speaker I know, these little white boxes possessed the nothing-but-the-facts gene of recording-studio monitors, which always forced them to deal with business first. The SB-C700 did drunken cabaret groping—*ie*, richness and romance—only when I forced them to by playing them extra loud. But to their credit, in the end, they *did* actually do it. In my small room, the SB-C700s played loudly extremely well. Additionally, they retained their sparkle and atmospheric texture when playing vespers and masses at late-night whisper levels. Very few speakers can do both volumes well.

SIMAUDIO MOON UHURU: When I switched from the 22W LM-5181A to Simaudio's Moon Neo 350P preamp and 125W Moon Neo 330A power amp, I played Black Uhuru's *Red* (LP, Mango MLPS 9625). Want bass? Powered by the Neo 330A, the Technics SB-C700s had it—down to, like, 50Hz, and with some room-pressurizing power. Want clarity and transparency? The Technics had that too, but

unlike most high-end speakers, the SB-C700s did it with a completely unobtrusive and naturalistic presentation.

I played King Sunny Ade and His African Beats' *Live Live Ju Ju*, recorded live in 1988 on a Calrec Soundfield four-capsule microphone, on DDD CD (Rykodisc 014431004728) and DDA LP (Rykodisc RALP 0047). I am not kidding or exaggerating: I experienced a wider soundstage—through the door and out into the hall!—than I'd thought possible only moments before. I could hear drum sounds decaying and diminishing into a background that seemed extremely far away. The depth felt nearly infinite.

These Technics speakers had a unique way of presenting piano notes.

To my ears, the Technics speakers had a rather unusual way of projecting energy into the room. Again, spatial content had linear tangibility: Soundstages were more deliberately described than I usually experience. Images of individual musicians/instruments weren't the most solid I've heard, but were firmly positioned in an almost geometrically proportioned soundscape matrix. When the music included copious bass energy, as with *Live Live Ju Ju*, the SB-C700 had an almost visual way of opening up and showing me the bass notes' expanding wavefronts. Bass quantity and quality always seemed just right. The Technics projected energy in a way that made me constantly aware of energy volume, energy-source location, and movement.

WITH THE PASS LABS XA-100.5S: Driven by the Pass Labs 100.5 mono amplifiers, the Technics SB-C700s sang with more vivid texture and transparency than even my references for these characteristics: the original Quad ESL 57s. Bass felt supranatural. Symphony orchestras sounded appropriately large, highly resolved, and powerful. Indie rock, country, and jazz felt more authentic. This was a very exciting combination of speakers and amp with which I could easily live happily ever after. As we listened, I asked an

measurements, continued

slope below that frequency.

Higher in frequency in fig.3, the black trace shows the Technics' quasi-anechoic response on its tweeter axis at 50°, averaged across a 30° horizontal window. The response on this axis is impressively even, though

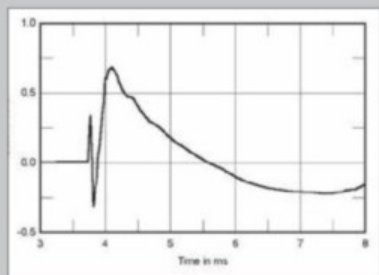


Fig.6 Technics SB-C700, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

a slight rising trend can be seen up to 10kHz. The SB-C700's lateral radiation pattern (fig.4) and vertical radiation pattern (fig.5), both referenced to the tweeter-axis response, indicate that the speaker's dispersion is wide and even up to 10kHz in both planes. Above that frequency there are the usual peaks and dips off axis, due to

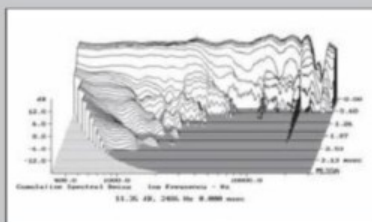


Fig.7 Technics SB-C700, cumulative spectral-decay plot on tweeter axis at 50° (0.15ms risetime).

the tweeter being positioned in the center of the woofer diaphragm, but these will not affect the speaker's tonal quality.

Turning to the time domain, the Technics' step response on the tweeter axis (fig.6) reveals that both drive-units are connected in positive acoustic polarity and that the tweeter's output leads that of the woofer. However, the seamless blend between the decay of the tweeter's step and the start of the woofer's step implies optimal cross-over design. The cumulative spectral-decay plot (fig.7) is impressively clean.

The Technics SB-C700's measured performance reveals some excellent audio engineering from an unexpected source. I am not surprised HR liked it. —John Atkinson



Warp time & space

It just might be possible with the industry-leading flux density of 1.5 Tesla. The new, ground-breaking LCD-4 uses a special double-sided implementation of our Fluxor™ magnet technology combined with a new, even thinner diaphragm. It has the dynamic range and punch that brings you the realism of a live performance. Or use the LCD-4 to erase your friends' credit cards from a mile away, create a wormhole to shop at record stores on other planets, or make yourself invisible to zombies.* Or maybe, just maybe, you want the finest headphones on Earth.

Warp yourself for \$3,995

Limited availability - by special order only

Reserve yours now

** No, not really. Maybe just a little...*

www.audeze.com

Black
by bel canto

ACI600 Integrated Amplifier

bel canto

ETH 44.1 69.9

Ultimate Integration

www.belcantodesign.com/black

old friend, “Does it get any better than this?” He smiled and shook his head.

WITH TECHNICS’ OWN PREMIUM CLASS SU-C700: The nice people at Technics/Panasonic were adamant that I review the SB-C700s as part of their complete Premium Class C700 Series. I told them that my editor would not allow that. They sent me the complete system anyway, in a single giant box on a shipping pallet. About halfway through my six weeks of listening, I installed Technics’ sleek and sexy-looking SU-C700 (\$1599), a 45Wpc (into 8 ohms) integrated amplifier. And I still haven’t removed it. The SU-C700, a digital amplifier with a linear power supply, played music in a new-fashioned way that took me a week or more to appreciate. It presented music in a richly textured, fast-moving boogie dance that I found totally compelling, but it also sounded more mechanical and less organic than the other amps I used with the SB-C700s, with a kind of dry silveriness to its sound.

Then I remembered: On the SU-C700’s remote control is a button mysteriously labeled LAPC. This stands for Load Adaptive Phase Calibration. According to Technics, LAPC is “a speaker impedance optimization algorithm, using digital signal processing to flatten both the amplitude and phase-frequency response to make the most of your speakers.” As best I can tell, LAPC generates a test signal from an internal app that measures the signal amplitude *vs* load impedance and phase angle at the interface of amp and speakers. After measuring, the app makes corrections to linearize the frequency response.

Hoping for improvement, I pressed LAPC. A yellow light appeared at the center of the front panel, and the amp ran the test signal. I listened again and was completely surprised. Missing colors reappeared. The music got more chunky and funky. The sound had gone from great boogie but lean tonality to extraordinary forward momentum with more-than-satisfying musical presence. Corrected by LAPC, the SU-C700 became one of the more enjoyable integrateds I’ve auditioned.

VS. THE KEF LS50: The KEF LS50¹ is a stand/desk-mounted minimonitor that has earned itself “reference” status in the listening rooms of countless reviewers, myself included, and is listed in Class A (Restricted Extreme LF) of *Stereophile*’s “Recommended Components.” Compared to the Technics SB-C700, the KEF LS50 sounds noticeably slower and a tiny bit less transparent. The SB-C700 was more dynamic, with more slam and startle factor, and was lighter on its feet. The Technics went lower and presented a wider spectrum of bass detail than the KEF, as well as more clean air between singers and their mikes.

VS. THE FALCON ACOUSTICS LS3/5A: The Falcon² is my current reference for transparency, realistic tone character, and full-tilt pace and rhythm. The Technics SB-C700s were about 10% less transparent than the Falcons. The Falcons are more dynamic and colorful, but the SB-C700s went considerably lower in the bass, and had none of the treble exaggerations of the BBC’s venerable LS3/5a design. The Technics developed more weight and body than the Falcons or KEFs. When I returned to the Falcons after weeks with the Technics, all I could hear was all the bass that wasn’t there.

Conclusions

Fujichrome, Ektachrome, Cibachrome = beauty, saturated color, image clarity. I always objected to the photographic

ASSOCIATED EQUIPMENT

Analog Sources Acoustic Signature WOW XL turntable & TA-1000 tonearm, Ortofon 2M Black cartridge; Technics SL1200 Mk.2 turntable, SME M2-9 tonearm, Soundsmith Carmen cartridge; Thorens TD 124 turntable, Abis SA-1.2 tonearm; Jasmine Turtle MC, Ortofon CG 25 Di Mk.II, Zu Denon DL-103 cartridges.

Digital Sources Integra DPS-7.2 DVD-A player, Halide HD DAC.

Preamplification Intact Audio step-up transformer; Blue Horizon Ideas Profono, Schiit Audio Mani phono stages.

Preamplifier Simaudio Moon Neo 350P.

Power Amplifiers Pass Labs XA100.5 monoblocks, Simaudio Moon Neo 330A.

Integrated Amplifiers Line Magnetic LM518 IA, PrimaLuna ProLogue Premium, Technics SU-C700.

Loudspeakers Falcon Acoustics LS3/5a, KEF LS50, Totem Acoustic Model One Signature.

Cables Interconnect: AudioQuest Cinnamon, Big Sur, Golden Gate. Speaker: Auditorium 23, Kimber Kable 8TC, AudioQuest Type 4.

Accessories Sound Anchor stands, Dr. Feickert Analogue cartridge-alignment tools.—Herb Reichert

metaphors of the late Harry Pearson, founder and editor of *The Absolute Sound*, but everything I have ever mocked I have become. So here goes:

I like reproduced sound to have sparkling, crisp image clarity, beautifully rendered light and shadow, and effulgent hypersaturated musical hues. I like rich colors so much that I rarely mind if my audio images are a little *extrasaturated*—like my old Ektachromes.

The Technics Premium Class SB-C700s generate crisply clear images, well-described spatial perspectives, and naturally detailed bass down to about 50Hz. But be forewarned: the SB-C700 are definitely not like my old Ektachromes. On the scale of saturated to unsaturated, they are precisely at the center—just as they are exactly in the middle of the feminine painterly (*colorito*) to masculine linear (*disegno*) scale. Instead of sounding luminous and slightly romantic, like my DeVore Fidelity Orangutan O/93s, the SB-C700s lean toward the analytical. More precisely, they have a new, 21st-century sound that is evenly balanced but retains just enough color and tonal richness to play all types of music in an emotionally engaging way. As I type, I wonder: Could this new 21st-century neutrality I’m noticing be the result of new driver technologies and substantially reduced cabinet colorations? I think maybe.

Whenever audiophiles claim they can’t live with colorations, and that they *require* accurate or neutral reproduction, I laugh, choke up, and expectorate. I don’t believe anybody when they say this. All that any audiophile or reviewer—myself included—really wants is his or her *favorite* colorations. We want recordings to sound like *we* want them to sound. If you think I’m full of it, I dare you to audition these beautiful, well-engineered speakers. Technics’ new Premium Class SB-C700 is not only accurate, transparent, and neutral, it’s an excellent value. Highly recommended. ■

1 See www.stereophile.com/content/kef-ls50-anniversary-model-loudspeaker.

2 See www.stereophile.com/content/falcon-acoustics-ls35a-loudspeaker.

Quote. Weird.

The best kept secret in high-end audio.

Actio and reactio as if Isaac Newton himself were the maker of these components.

Unbelievably precise, incorruptible music machines.

Densely filled holographics, with oodles of front-to-back layering.

More soul! Top to bottom. This is the first time I've ever heard a (very expensive, formidable loudspeaker) disappear.

Extremely high levels of signal purity and stability. I would choose one any day of the week.

An absolute masterpiece.

The biggest sensation ever to hit the reference class.

End of quote. Being scientists, we're leaving the singing of praises this time to the most competent voices in high-end criticism.

Anything else? Er, yes.

We had it in the back of our minds that we wanted to sound like a very dry Martini.



Our mighty MAX has been called the "best solid state amp in the world". Maybe that's why it won "best sound" awards at this year's AXPONA, T.H.E. Show and High End Munich, too. Meet MAX at en.audionet.de, and don't forget to call up Bill Parish at gttaudio.com. Thanks again for your world-class support. Cheers.



KRONOS
TIME FOR MUSIC®



www.gttaudio.com 908.850.3092



Americas Flagship Boutique for
Audionet, Kii Audio, Kronos Audio
and YG Acoustics dealer.

Pure Seduction...
Sonja 1.3



All products on display. By appointment only.
Check our website for a full listing of brands represented.
Dealer inquiries welcome.

2015
the absolute sound
PRODUCT
of the
YEAR
award



*Chosen as Technology
Breakthrough
of the Year*

"...the V system addresses the psychoacoustic problems in room-speaker-listening-position interaction to a degree that no competing system I've heard has attempted, and it does so with striking success."

Anthony H. Cordesman, The Absolute Sound 258



**LEGACY V System with Wavelet™
DAC/Preamp/Crossover
with BOHMER Room Correction™**

Contact us for more info or to find your nearest audition site:

legacyaudio.com info@legacyaudio.com 800-283-4644

THOMAS J. NORTON

Paradigm Prestige 95F

LOUDSPEAKER

Déjà vu all over again? Apart from being reminded of this Yogi-ism by the death, in September 2015, of its originator, I was all set to begin by commenting that this would be my first review for *Stereophile* of a Paradigm loudspeaker. *But*—the recent online posting of my June 1992 review of Paradigm's Studio Monitor took me back.¹

That speaker sold for \$1899/pair in an era when \$5000/pair was near the top of the price structure of high-end audio—apart from a very few nosebleed models. I have in my hands a copy of the April 1992 *Stereophile*. In that issue's edition of "Recommended Components," only four Class A speakers exceeded \$10,000/pair: the B&W Matrix 800, the Infinity IRS Beta, the Meridian D6000, and the Wilson Audio WATT 3/Puppy 2/WHOW. The average price of all Class B speakers was \$4780/pair, not including the Wilson system sans WHOW—which, at \$13,900/pair, would raise the average to \$5315/pair. Wilson speakers were super-expensive then, and not much has changed!

Apart from the fact that, today, more audio gear is being built outside the

¹ See www.stereophile.com/content/paradigm-studio-monitor-loudspeaker.



SPECIFICATIONS

Description Floorstanding, 2.5-way, bass-reflex loudspeaker with two rear ports. Drive-units (all X-PAL): 1" dome tweeter, 8" mid/woofer, two 8" woofers. Crossover frequencies: 400Hz, 2kHz. Crossover: 2.5-way, second-order electroacoustic. Frequency

response: 37Hz–20kHz, ± 2 dB (on axis); 37Hz–17kHz, ± 2 dB (30° off axis). Sensitivity (anechoic): 91dB. Impedance: compatible with 8 ohms. Recommended amplification: 15–450W. **Dimensions** 44.4" (1138mm) H by 13.2" (338mm) W by 17" (435mm) D. Weight: 99

lbs (45kg).

Finishes Piano Black, Walnut, Black Walnut, Midnight Cherry.

Serial numbers of units reviewed ADN1079521H04, ADN1079521H05.

Price \$4998/pair in standard finishes, \$5598/pair in Midnight Cherry. Approximate

number of dealers: 400+. Warranty: 5 years.

Manufacturer Paradigm Electronics Inc., 205 Annagem Boulevard, Mississauga, Ontario L5T 2V1, Canada. Tel: (905) 696-2868. Fax: (905) 696-9479. Web: www.paradigm.com.

US, \$5000 can't buy the same quality it once did. In fact, it now takes about \$8400, on average, to buy what \$5000 bought in 1992—and not just in audio gear.

Don't tell Paradigm. Their current speaker line tops out at \$8998/pair, for the Signature S8. But the recently launched, midline Prestige series—comprising three tower models, a stand-mount, two centers, and a dedicated surround speaker—can be had at prices more reminiscent of 1990 than of 2016. Nostalgia *can* be fun.

The 95F (\$4998/pair) is the flagship of the Prestige range. At 44.4" high by 13.2" wide by 17" deep, each stands almost 4' high, though the two of them were less imposing in my room than my vintage Energy Veritas v2.8s (50.25" by 12.2" by 14.4").² Our samples came in flawless Piano Black, but I recommend that anyone contemplating this or any model in the Prestige range look carefully at the gorgeous Midnight Cherry finish (add \$600/pair) before deciding.

The Prestige range drops the modern trend toward cabinets with curved side and rear panels in favor of a more traditional, rectilinear design. That's not necessarily a bad thing. Those curvy cabinets are a bit more rigid, but the popular claim that they reduce internal standing waves is, at best, specious.³ Having the 95F's side panels at right angles to its front baffle also makes it easier to judge the toe-in angle from the listening position.

The 95F rests on aluminum outriggers with height-adjustable feet. (The dimensions stated above include the space taken up by those outriggers.) The feet can be used as delivered, with their flat metal surfaces in place, or removed, inverted, and reinserted to make use of the spikes on the reverse side. I used their flat sides to keep from marring the hardwood floor under the near-room-sized rug the speakers sat on. Even so, the feet's spikeless sides are indeed flat, not



The 95F's double-sided (a choice of flat or spiked) feet and the outriggers they call home.

² See my review of the Energy Veritas v2.8 in the July 1994 issue: www.stereophile.com/content/energy-veritas-v28-loudspeaker-specifications.

³ The frequency of standing waves in any enclosed space is a function of the distance between opposing sides. In a speaker cabinet, this frequency is nearly always high enough that these waves can be easily tamed by internal damping. In a room, however, with dimensions measured in feet rather than inches, they're far lower in frequency and not so easy to avoid. Curved cabinets and rooms with splayed walls don't eliminate standing waves: They merely make their frequency and distribution less predictable and therefore harder to deal with.

MEASUREMENTS

I used DRA Labs' MLSSA system and a calibrated DPA 4006 microphone to measure the Paradigm Prestige 95F's frequency response in the farfield; for the nearfield frequency response, I used an Earthworks QTC-40, which has a 1/4" capsule and thus doesn't present a significant obstacle to the sound.

The Prestige 95F's voltage sensitivity is specified as 91dB/2.83V/m anechoic and 94dB in-room. My estimate was very close to this, at 92dB(B)/2.83V/m.

This is a speaker that plays loudly with very few watts. The 95F's impedance is specified as being "compatible with 8 ohms." You can see from the solid trace in fig.1 that the impedance magnitude drops below 4 ohms only in the lower midrange and high treble, with a minimum audioband value of 3.5 ohms at 160Hz. Though the impedance drops to 2.4 ohms at 50kHz, very little musical energy is present above 40kHz, and this should not present amplifiers with any problems. The combination of 6.6

ohms and a -42° electrical phase angle at 82Hz will also not be an issue.

The traces in fig.1 are free from the small wrinkles that would imply the existence of cabinet vibrational resonances of some kind. However, using a simple accelerometer, I did find a cluster of resonances in the midrange, with the highest in level at 301Hz, on the sidewall, level with the top woofer (fig.2). These were lower in level farther down the sidewall, though another mode appeared in that vicinity, just below 600Hz. The top and rear panels were also relatively lively, but it's fair to note that Thomas J. Norton didn't comment on any midrange congestion that might have resulted from this behavior. The Prestige 95F's high sensitivity means that any cabinet resonances will not be excited as much for a given playback level as they are in my measurements, for which I use a consistent voltage stimulus.

The saddle just below 40Hz in the impedance-magnitude trace suggests

Stereophile Paradigm 95F Impedance (ohms) & Phase (deg) vs Frequency (Hz)

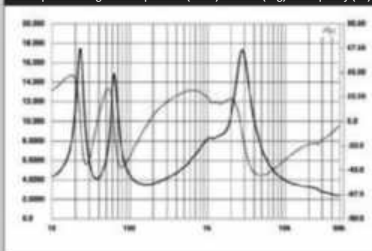


Fig.1 Paradigm Prestige 95F, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

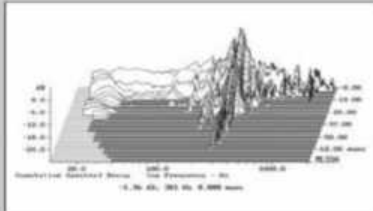


Fig.2 Paradigm Prestige 95F, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of sidewall level with top woofer (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).



Actual Size

Listening through Groove brings it all back

"As president of a record label, I spend a great deal of time listening to music. As a record producer, I've spent countless hours in the studio crafting recordings that have captured amazing performances, only to be heard with compromised sound quality. Groove brings back all the fidelity, dynamics and emotion of the original recordings. I won't listen to music without it, and neither should you."

Don Was

*President of Blue Note® Records,
Grammy® Award Winning Producer for The Rolling Stones, Bonnie Raitt, Willie Nelson
Musician, Music lover.*

Apogee Groove USB DAC and Headphone Amp

www.apogeedigital.com/groove



Designed in California
Built in the U.S.A.*

*Apogee products are built in the U.S.A. using domestic and foreign parts and components.



DACS MADE FOR THE MUSIC YOU HAVE,
NOT THE MUSIC YOU HAVE TO BUY.



BIFROST MULTIBIT \$599



GUNGNIR MULTIBIT \$1249



YGGDRASIL \$2399

You'll be amazed what's hiding in your "lowly" 16/44.1 music when you play it on a Schiit multibit DAC. Forget your stress about costly "unicorn" formats* and fully experience *the music you already love*.

*Got high res? No problem. Our multibit DACs play that too...and it sounds great!



SCHIIT

WWW.SCHIIT.COM



rounded, with edges sharp enough to scratch the wood as I walked each 99-lb (also including outriggers) Prestige 95F into position. I discovered this a bit too late. The damage would have been more serious had I not noticed the problem almost immediately, but fortunately it was small and hard to see. Later, I tried to use those adhesive, hardware-store felt pads on the 95F's feet, but they wouldn't stick to the smooth metal and fell off almost immediately under the walking motion. Luckily, I was able to protect the normally bare areas of my hardwood floors with small throw rugs, until I could move the speakers onto the larger, carpeted area.

The 95F's rear panel has two pair of binding posts, with jumper straps that can be removed by those who elect to biwire or biamp (I did neither). The posts are high quality, but thanks to European safety regulations are spaced too far apart for double banana plugs. Also on the rear are the speaker's two ports. The inner aperture of the top port is covered with acoustically transparent foam; the bottom port

The 95F is the flagship of Paradigm's Prestige range.

is open. Both ports are fully functional: The foam in the top port is there only to obscure the view inside the cabinet—and perhaps to keep a three-year-old from giving Mr. Potato Head a cozy new home.

The 95F is a 2.5-way speaker, rather than one of the three-way designs more common at this size and price. All three of its 8" drivers operate in the bass. The two lower woofers roll off above 400Hz, while the topmost 8" cone, operated as a mid/woofer, continues alone up to 2kHz, where it hands off to the tweeter. All crossovers are second-order (acoustical).

The woofers and mid/woofer all share the same cabinet volume but aren't precisely identical. Each has one of Paradigm's pure-aluminum X-PAL cones, with concave dustcap, Nomex spider, die-cast basket, 1.5" voice-coil on a Kapton former, Active Ridge Technology (ART) surrounds that are

measurements, continued

that this is the tuning frequency of the two ports on the rear panel. The sum of the woofers' nearfield responses (fig.3, green trace) does indeed have a well-defined notch at 39Hz, and the sum of the ports' nearfield outputs (blue) peaks in classic manner between 30 and 60Hz, with a relatively smooth rolloff disturbed by only slight peaks around 150 and 900Hz. The individual responses of the three woofers are not shown in this graph, but as specified by Paradigm, only the top woofer's re-

sponse extends up to the crossover to the tweeter (red trace). As conjectured by TJN, the tweeter's output appears to be a little too high in level; of more importance, in my opinion, is the behavior of the top woofer in the octave below the crossover frequency, where a slight lack of energy is followed by a sharply defined peak.

This behavior can be seen in the 95F's overall farfield response on the tweeter axis (fig.4 above 300Hz). Below 300Hz, the graph shows the

complex sum of the nearfield woofer and port responses; the upper-bass peak is, in part, an artifact of the nearfield measurement technique, but it does suggest that the Paradigm's low frequencies are balanced on the rich side, as TJN noted in his listening. But higher in frequency in this graph, the sharp step upward in the 95F's response at 1kHz, the valley between 2 and 4kHz, and the excessive level of the tweeter between 5 and 12kHz, are all puzzling.

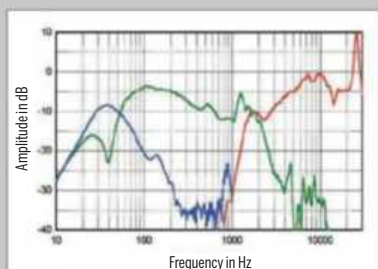


Fig.3 Paradigm Prestige 95F, sample 'H04, acoustic crossover on tweeter axis at 50", with sum of nearfield woofer responses (green) and sum of nearfield port responses (blue) respectively plotted below 350Hz and 1kHz.

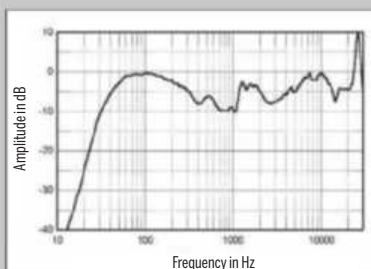


Fig.4 Paradigm Prestige 95F, sample 'H04, anechoic response on tweeter axis at 50", averaged across 30° horizontal window and corrected for microphone response, with complex sum of nearfield woofer and port responses plotted below 300Hz.

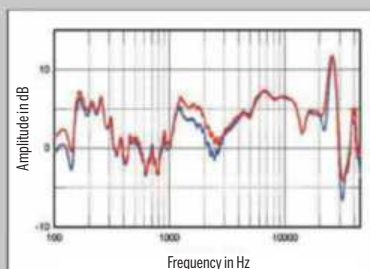


Fig.5 Paradigm Prestige 95F, $\frac{1}{12}$ -octave-smoothed response on tweeter axis at 30" of samples 'H04 (blue) and 'H05 (red) (5dB/vertical div.).

It's here. [The redefinition of your audio and video experience.](#)
The Emotiva XMC-1 combines precision 7.2 HD surround decoding, balanced audiophile multichannel preamplification, and full 4K video management with the power of Dirac Live™. Whether you're running the latest movies or high-definition audio, get ready for the most powerful, immersive experience you've ever had.

[The all-new XMC-1.](#) Stunning performance now. Modular and upgradable for the future. Covered by a 5-year warranty. Designed and made in the USA at our Tennessee production center.



Redefine your experience with the XMC-1. \$2499.

over-molded (in-house) onto the cone, and butyl rubber inserts and gaskets to isolate the baffle from the driver's vibration. But while the woofer drivers have copper-wound voice-coils, the mid/woofer's coil is of aluminum, whose lower density is claimed to benefit midrange performance.

The 95F's X-PAL tweeter dome is also made of aluminum, but beyond that, its real innovation is its Perforated Phase Alignment (PPA) tweeter lens. (Paradigm seems to have an entire department dedicated to the coining of initialisms and acronyms.) At first look, the PPA appears to be a protective screen covering the tweeter, but the function of this screen is far more than mere protection of the X-PAL dome. Its solid center is surrounded by rings of round holes that steadily increase in diameter as those rings approach the PPA's outer circumference. Paradigm says that this lens is designed to block "out-of-phase frequencies for smoother, extended high frequencies."

My theory was that the PPA's goal might be similar in intent to that of a tweeter with a donut-shaped diaphragm and phase plug, or a pinned center.⁴ Paradigm didn't agree:

What PPA corrects has [its] root in dome geometry: at high frequencies[,] dome size becomes comparable to the wavelength of sound it reproduces. For [a] 1" dome, for example, [the] wavelength equals the dome diameter at 13.6kHz. Sound radiated by different portions of a dome reaches [the] listener (or microphone) with a different phase due to [the] varying distance it travels. This phase shift results in sound waves not adding up perfectly and creates dips in frequency response. This phenomenon also affects off-axis response. PPA helps smooth on- and off-axis response by blocking out-of-phase sound.

The tweeter also sits at the apex of a shallow waveguide, the likes of which can be used to narrow a tweeter's radiation pattern at its lower end, to better match the dispersion of the midrange driver at the mid/tweeter crossover frequency. In doing so, the waveguide also boosts the tweeter's sensitivity. This response bulge must be compensated for in the crossover to produce a linear response. In doing so, the power the tweeter receives is decreased, thereby increasing its power handling. According to the proponents of waveguides, this is a win-win.

The drivers' mounting hardware is concealed under metal trim rings, for a clean look. The appearance is striking, particularly against the darker finishes. At first I found the shiny aluminum drivers and trim a bit blingy, but I soon warmed to them. Lightweight removable grilles, held in place by magnets, conceal the shiny drivers, but I didn't use them; grilles are rarely acoustically benign.

Paradigm touts the Prestige line as being "Handcrafted in Canada," claiming that all engineering and development are done there, and that almost all component parts are manufactured at Paradigm's factory in Mississauga, Ontario, or are locally sourced. Some parts are made by suppliers outside Canada, but the speaker cabinets are made, and the drivers and crossovers assembled, in Mississauga.

4 The voice-coil that drives a dome tweeter is located at or near the dome's outer rim. If the center responds too slowly to the signal, it could be out of phase with the dome's sides at some frequencies, canceling them and producing a ragged response. Eliminate the output from the dome's center, either by giving the diaphragm a donut shape with a phase plug at its center, or by pinning or restraining the center of the dome (often visible as a dimple at the center of the dome), and any such cancellation is reduced. This could be more of an issue with soft than with metal domes, but the latter can be made thin and light enough to perhaps be subject to some of the same forces. But as far as I know, no metal-dome tweeters have phase plugs or pinned centers.

measurements, continued

So far, all the measurements were taken with the sample with serial no. ADN1079521H04. I therefore unpacked the other sample, 'H05, and examined its behavior. (Logistical issues meant that I had to do this with a different measurement system and microphone, respectively Fuzzmeasure 3 and the Earthworks QTC-40, so I remeasured 'H04.) The results, necessarily taken at a closer distance than before (30" vs 50"), are shown in fig.5: The blue trace is 'H04, the red trace 'H05. Both

speakers still feature the step upward in response and the responses in the tweeter's passband are superbly well-matched, but 'H05 can be seen to have 2-3dB more energy at the top of the uppermost woofer's passband. I asked TJN, therefore, if he had heard a difference between the two samples. (I had not yet read his review text when I performed the measurements.) Tom responded that while he thought he'd heard some minor differences, he put them down to his new listening room,

which is acoustically different at the left and right. Nonetheless, I asked him to send me the in-room measurements he'd taken using the OmniMic system. The results are shown in fig.6, plotted above 100Hz. While both speakers exhibit a lack of energy between 2 and 4kHz, sample 'H05 (bottom) does indeed have more energy present between 1 and 2kHz. However, the response step below that region is diminished in these in-room traces.

Returning to my own measurements:

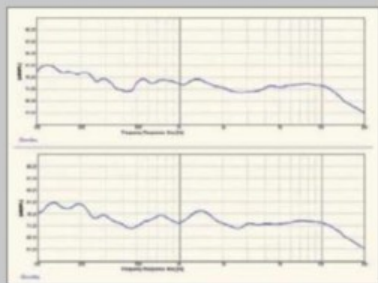


Fig.6 Paradigm Prestige 95F, in-room response in TJN's listening room of samples 'H04 (top) and 'H05 (bottom).

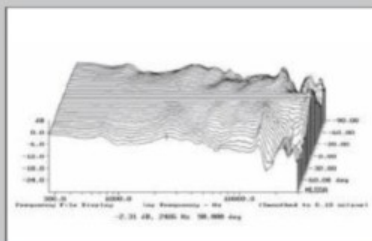


Fig.7 Paradigm Prestige 95F, lateral response family at 50", normalized to response on tweeter axis, from back to front: differences in response 90-5° off axis, reference response, differences in response 5-90° off axis.

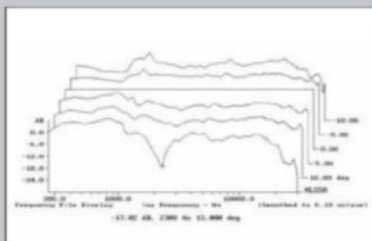


Fig.8 Paradigm Prestige 95F, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 10-5° above axis, reference response, differences in response 5-15° below axis.

*"The most significant audio product
I have ever hooked up to my system.
It was flawless."*



VAC Signature SE Preamplifier w/optional phono stage

Levels of detail resolution, ambience retrieval, air, and low-level dynamic articulation across the audioband that were nearly indistinguishable from a live performance.

The Signature SE produced an illusion of live musicians playing in an actual space better than any preamp I'd heard.

I'm not used to hearing this type of realistic reproduction from an audio component. I'm used to hearing it from a violinist sitting 10' away.

...with the Signature SE, I was struck by how the dynamic attack, the timbral envelope, and the decays of the notes sounded more like a real grand piano than I'd ever heard with this recording.

The day I removed the Signature SE from my system, to send it on to John Atkinson to be measured, my wife came home from work, looked at the rearranged components on my rack, and said, "What? The preamp's gone?"

Robert J. Reina, Stereophile June 2015



Valve Amplification Company

www.vac-amps.com telephone 941-952-9695

We build the world's finest audio instruments

Room, Setup, Gear

My new listening room is dramatically different from my previous environment. Although the 16' by 21' floor area is a bit smaller, the ceiling is, on average, higher. At its center, the ceiling rises to a shallow pyramid (!) that measures about 12' at its highest. A soffit around the base of this pyramid follows the perimeter of the room.

The entire right side of the listening area, which is part of an open floorplan, is open to a kitchen/breakfast area that in turn opens to the dining room through a doorway that, at 7' by 6', is essentially transparent to sound. Overall, it's a huge, irregularly shaped space, and while the listening area itself is roughly 3200 cubic feet, those other open spaces add at least another 5000 cubic feet—a challenge for any system. I chose the house because the main listening space could easily accommodate not only two-channel listening but also a home-theater surround system, for my work for *Sound & Vision*, as well as day-to-day living.

The room is definitely livelier than the listening space in my previous home. While the floors in the new area are hardwood over slab, they're mostly covered with large rugs, apart from the kitchen space. The wall behind the listening seats holds shelves filled with books, CDs, and videos. I'm still experimenting, but so far, the results, without draconian use of damping and diffusing panels, have been much better than anticipated.

I place speakers at an end of the room that plays outward behind them into a bay with three separate windows. The speakers sit 9' apart, with their front baffles about 7' from the deepest part of the bay and about 10.5' from the main listening seat, angled inward. The equipment rack sits to one side, in front of an unused and covered fireplace.

One problem I have with tall speakers is that their



Handcrafted in Canada: Paradigm says that all Prestige-series drivers and cabinets are made in-house.

tweeters are often well above the height of my ears when I'm seated. In the case of the Prestige 95Fs, the difference was over 4'. To compensate for this, I tilted the speakers forward slightly. Whether or not you'll need to do this will depend on your seated ear height. (This is important to keep in mind when listening to speakers at dealers and shows. Folding and director's chairs are popular in such venues, but they're typically much higher than domestic seating.)

Except as noted, I drove the Paradigms full-range with two-channel recordings, using an Integra DTC-9.8 surround processor strictly as a 2.0-channel digital preamplifier in its Direct mode. I later briefly tried a Jeff Rowland Design Group Consummate analog preamp, but the system's sound jelled better with the Integra. The amplifier was a

measurements, continued

Fig.7 shows the horizontal radiation pattern of sample 'H04, normalized to the tweeter-axis response. Paradigm specifies very well-behaved off-axis behavior, and fig.7 confirms it, at least up to the top octave. However, the elevated on-axis response of the tweeter between 5 and 12kHz is not entirely compensated for by a lack of energy off axis. As TJN commented, the Prestige 95F will not be particularly forgiving of overbright recordings. But it is

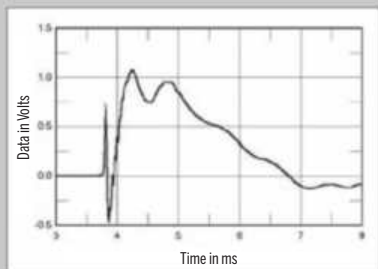


Fig.9 Paradigm Prestige 95F, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

fair to note his observation that, with well-recorded music, the 95F "sparkled with life." In the vertical plane (fig.8), the dispersion is wide and even, and a suckout in the crossover region doesn't develop until 15° below the tweeter axis. Although the 95F's tweeter is a high 43" above the floor and the seated ear height of the average listener is 36", this will not be an issue.

The Paradigm 95F's step response on the tweeter axis (fig.9, taken with sample 'H04) indicates that its four drive-units are connected in positive

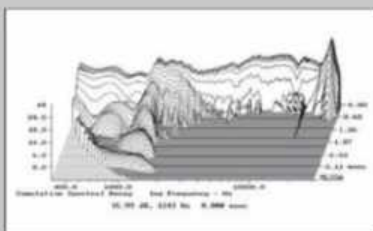


Fig.10 Paradigm Prestige 95F, cumulative spectral-decay plot on tweeter axis at 50° (0.15ms risetime).

acoustic polarity, with the decay of the tweeter's step blending smoothly with the start of the woofers' step. I assumed that the ripples in the woofers' step were due to the multiple arrivals from the spaced woofers. However, the cumulative spectral-decay plot on the tweeter axis (fig.10) does suggest that the peak between 1 and 2kHz results from a problem with the top woofer.

When I visited Paradigm's facility in Toronto in summer 2014, I was very impressed by the depth of the company's engineering and manufacturing expertise. They have a large anechoic chamber for acoustical analysis and state-of-the-art measuring equipment, including the Klippel system for analyzing the behavior of drive-units. I'm puzzled, therefore, by the departure of both samples from what I regard as an optimal target response, though it is fair again to note that TJN's in-room measurements are better than I would have expected from the quasi-anechoic behavior. —John Atkinson

Proceed AMP5, though for this review I used only two of its five channels. Each channel of the AMP5 is driven by a completely separate power supply and transformer, in effect making it, for this review, two monoblocks built on the same chassis. The source component was a Marantz UD7007 universal Blu-ray player, connected to the Integra with a coaxial digital cable. To play SACDs, I used an Oppo BDP-105D universal BD player, connected to the Integra via HDMI.

Apart from the Marantz and the Oppo, much of this system is old, including the cables. Although I plan to update the system, the sound quality it produces has me in no rush to make changes.

All of the recordings mentioned below were from 16-bit/44kHz CDs. I also briefly listened to some two-channel DSD recordings on SACD, with essentially the same results.

Before doing *any* listening, I ran-in the Prestige 95Fs for about 100 hours, to ensure against the questionable practice of doing critical listening while the speakers were still breaking in. The latter is more likely to break in your ears to the new sound than to change the speakers themselves.

Early Concerns

My first concern was whether or not the 125Wpc Proceed AMP5 could drive the Prestige 95Fs in my large room. I needn't have worried. As it turned out, judging from test tones and a sound-level meter, the Paradigms seemed to be over 4dB more sensitive than my vintage-but-still-reference Energy Veritas v2.8s. (John Atkinson's measurements of the 95F will provide a more accurate number.) A change of even 3dB means that, at least in terms of power, the Proceed will drive the Paradigms as well as a 250Wpc amp would drive a speaker 3dB less sensitive.

And never once did I feel deprived. Even in my large space, the Prestige 95Fs seemed content with what might be viewed today as *average* power. Like any speaker, of course, they could be turned up until either the amp or the speakers screamed uncle. I never reached that point—I stopped short of levels clearly higher than my normal listening. I also tried the Paradigms with some challenging video sound, using a generic center-channel speaker and subwoofer, at levels that made me fear for my new neighborhood's torches-and-pitch-forks brigade. I found the Paradigms immensely rewarding in this application. Though that's not my beat for this review, it did suggest that the Prestige 95Fs are likely to satisfy with dynamic, challenging two-channel material, even when driven by a modestly powered amplifier in a large space.

Listening

I prefer a speaker that sounds neutral and open—no soft, squishy highs, no “excuse me, I didn't mean to intrude” politeness. But that doesn't mean I like a speaker that sounds aggressive. I want what's on the recording, even if that's a goal that no speaker, of any size or price, can perfectly achieve. (Which is also why no one knows precisely what's on any recording, not even the recording team, which knows only what it sounds like through their own studio monitors.) But it's a worthy goal.

The heart of the music falls in the midrange, and in addition to the other concerns noted above, I was at first a bit put off by the decision by the Prestige 95F's designers to have an 8" driver cover the audioband up to 2kHz. The full diameter of this mid/woofer, including its exterior trim

ring, is the specified 8" (205mm), but the diameter of the radiating cone itself is only 5.3" (135mm). A driver begins to beam when the diameter of its cone equals the wavelength of the frequency it's being asked to reproduce—in the case of a 5.3" cone, about 2500Hz. It doesn't suddenly start beaming at precisely this frequency, but the radiation of its output gradually narrows at the frequencies leading up to it. The waveguide on the 95F's tweeter helps to match its low-treble radiation pattern to that of the mid/woofer, but the dispersion around this frequency could be narrower than it is at higher and lower frequencies.

However, I heard no consistent problems in the speaker's upper midrange and low treble. The Paradigms produced none of the more common, obvious colorations associated with less-than-optimal dispersion. While the Paradigms sometimes sounded just a bit forward of neutral, they were never pushy or in-your-face. Pop vocals, in the better-sounding cuts from a wide range of artists—eg, B.B. King, Diana Krall, Elvis Presley, Jacintha, Joe Williams, José Carreras, the King's Singers, Daniel Lanois, the Fairfield Four, Holly Cole, and Buddy Holly, in “True Love Ways,” the only stereo track I know of in his recorded work, on *From the Original Master Tapes* (CD, Universal TMCAD-5540 DIDX-203)—invariably sounded a bit different from each other in the character of their recordings. This is as they *should* sound through a good system, which shouldn't add or subtract consistent colorations of its own.

The 95Fs also excelled at imaging and depth, even with a large, flat-screen HDTV sitting between them (though nearly 4' behind the speakers' front baffles). The soprano, tenor, and bass in the “*Tecum principium*” of Saint-Saëns's *Oratorio de Noël*, with Anders Eby conducting the Mikaeli Chamber Choir (Proprius Musik PRCD9057)—and, in fact, the voices throughout the entire recording—were spread across the soundstage in the warm acoustic of Stockholm's St. John's Church, the instrumental accompaniment arrayed behind them. The pop singers listed in the preceding paragraph were also precisely positioned between the speakers—at times tightly focused, at others a little spread out, as you often hear when listening to different recordings.

In fact, I was pleasantly surprised to find that the imaging I heard from the Paradigms was as tightly and consistently focused as I recall hearing from other speakers in my previous listening room, where it was rare for a pair of speakers *not* to image well. The most significant thing that the two installations have in common was a significant distance between the speakers and the wall behind them (assuming that the speakers being listened to weren't designed for near-wall positioning, which few are).

It was a little tricky to get the Prestige 95Fs' bass right in my new room. It didn't measure particularly well from the listening position (using the Omnimic system from Parts Express), but that's not uncommon. There were significant peaks and valleys below 80Hz, particularly from the right speaker, which had no sidewall nearby. I did try moving the Paradigms to the room's long wall, but even with the speakers 4' out from that wall, the bass, while less mountainous by measurement, *sounded* far too prominent overall. The bass balance, by ear, was far better at the speakers' original positions, so that's where they sat for all of my critical listening. My experience here suggests that a pair of 95Fs may be most comfortable when trying to fill a larger room; for smaller spaces, one of the smaller Prestiges might work better.

Despite the 95F's problematic in-room measurements of



TRADE UP IN 2016!

Trade Up To Morrow by trading in your existing brand for Morrow within 60 days. Save 40% immediately and experience beautifully immersive sound. If you don't love the world of flawless sound quality provided, keep yours and ship our cables back for a full refund.

Every Morrow Audio cable is fully equipped with SSI Technology[™] and comes with a lifetime performance guarantee.

BEGIN YOUR EXPERIENCE NOW AT **MORROWAUDIO.COM**.

"Morrow Audio's wires performed like an old pro. Nicely weighted, with a solid midrange sweetspot, these wires had terrific low level resolving power, solid bass and good soundstaging and dimensionality...the more expensive MA7 interconnect spiced up the harmonics and added just a bit more juicy texture and complexity to the sound. Overall, this was a cable that defied expectations in its range."

– *The Absolute Sound 2016 Buyer's Guide*

spi
made in usa



Designed in America



Built in America



Shipped from America



Do you know where your turntable REALLY came from?

mid- and deep bass, the speakers were immensely rewarding with recordings that depend on bass for their full effect. Organist Jean Guillou's performance of his transcription of Mussorgsky's *Pictures at an Exhibition* (CD, Dorian DOR-90117) left nothing to the imagination, particularly the deep-bass growls in *Gnomus*. Ditto for the lowest reaches on the Rhythm Devils' *The Apocalypse Now Sessions* (CD, Ryko RCD 10109), or Daft Punk's musings on their soundtrack album for *Tron: Legacy* (CD, Walt Disney 56720). If the 95Fs didn't sound quite as clean and deep in the nether regions as the sound I recall from my previous room (with a subwoofer, a deader acoustic, a suspended floor, and walls of lath and plaster), or as might a good subwoofer in general, the difference was never immediately obvious. Percussive bass, however, was as tight and punchy as could be wished. Played at a high level, the pounding drums in Iva Davies, Christopher Gordon, and Richard Tognetti's music for the film *Master and Commander: The Far Side of the World* (CD, Decca B0001574-02) practically lifted me from my listening chair.

The Paradigm's top end may be controversial for some. As I said earlier, I don't mind a prominent treble, as long as it doesn't stick out like the proverbial sore thumb. And some designers aim for a linear power response, in which a speaker's output is measured from all angles around it rather than only on or near its tweeter axis. This will often produce a tipped-up result if, for example, you measure a speaker's frontal response $\pm 15^\circ$ with respect to center.

My in-room measurements of the Prestige 95F at my listening seat showed only a small rise at the speaker's top end (roughly 1–2dB at 7–8kHz relative to the response at 2.5kHz, and going no higher above 8kHz). But in the June 2015 *Sound & Vision*, Mark Peterson's nearfield, pseudo-anechoic, $\pm 15^\circ$ frontal measurements of the Paradigm Prestige 15B⁵—which uses the same tweeter as the Prestige 95F—showed a rise of over 3dB in the same region, and lifting even higher above that.

Possibly because of this, the 95F wasn't particularly forgiving of overbright source material, at least in my room. But with well-recorded music, it sparkled with life. Percussion was particularly well handled. In addition to exhibiting deep bass, Kodo's *Mondo Head* (CD, Sony Music WK56111) jumped with exceptional detail. With closely miked acoustic guitar, such as Leo Kottke's on his *My Father's Face* (CD, Private Music 2050-P), I could hear every fine fingering of strings. And Ry Cooder's soundtrack for *Geronimo* (CD, Columbia CK 57760) was a sonic treat, not only for its open, transparent sound, but also for its oddly compelling music, which includes water pipes, flutes, cello, throat singers (!), mandolin, a brass band, and Cooder's own contributions on guitar, banjo, rudra veena, and . . . I-beam.

With some recordings, particularly of bright, hard percussion at high levels, the 95Fs produced a bit too much top-end edge. Percussion, when heard from close up—where it's often miked in non-classical recording—didn't sound pretty. But this was invariably fleeting and, for me, better than a sound that smothers the top end in search of an illusion of musicality.

As noted earlier, I also briefly listened to a number of DSD selections on two-channel SACD. They, too, sounded universally excellent, though I can't say they sounded, on average, better than the best CDs. I have no issue with high-resolution audio or LPs, but the most important part of any great recording, apart from the performance, will always be the engineering behind it, not the format.

ASSOCIATED EQUIPMENT

Digital Sources Marantz UD7007, Oppo BDP-105D universal BD players.

Preamplification Integra DTC-9.8 preamplifier-processor, Jeff Rowland Design Group Consummate preamplifier.

Power Amplifier Proceed AMP5.

Loudspeakers Energy Veritas v2.8.

Cables Interconnect: Kimber Kable AGDL (digital coax, sources to Integra), AudioQuest Niagara (analog to Consummate), Cardas Hexlink (preamps to power amp), generic HDMI (Oppo to Integra). Speaker: Monster Cable M1.5.—Thomas J. Norton

Comparison

I brought out my long-term reference speakers, Energy's Veritas v2.8s. While long discontinued—as is, for all practical purposes, Energy itself—and now almost museum pieces (I reviewed them for *Stereophile* in 1994), the v2.8s are a tribute to the fact that great speakers can last, in terms of both sound quality and durability. (Full disclosure: This pair of v2.8s has been used far less than most, as I often put them to one side when other speakers shuttle in and out for review.)

The Energys produced an in-room bass response remarkably similar to that of the Paradigms: a dip at 45Hz followed by a peak at 30Hz. This proves yet again that, in the bass, the room and the speakers' positions in it dominate, limited mainly by the speakers' inherent low-end reach. But the Energys' bass had marginally deeper reach and impact—their two woofers per side are also 8-inchers, though their cabinets are significantly larger than those of the 95Fs. The Energy's upper midrange and top end also had a bit more clarity than the Paradigm's; the latter's large-cone mid/woofer couldn't quite equal the detail retrieval of the Energy's 3" midrange dome. But the Paradigm was a little more dynamic and up-front.

These differences were subtle; I heard them only in what was as near to a direct A/B comparison as I could manage, A and B separated by some 10 minutes as I physically swapped the speakers. Also, recall my comments about inflation at the beginning of this review. Speakers comparable to the \$6000/pair Energys would cost at least \$9500 today; given that inflation in audio seems to have outpaced the rate of inflation overall, I'd say they'd now cost at least \$12,000/pair.

Conclusions

Of Paradigm's Prestige models, I'd bet money that the 85F, with a smaller midrange driver, a tweeter slightly closer to ear height, and a lower price (\$3998/pair) than the 95F, may be the sweet spot of the range: You'll probably sacrifice a bit of bottom-end heft, but a good subwoofer—and Paradigm offers plenty of them—will more than recover that. But for a likely lower overall cost, and for those who must fill a large room—yet to whom subwoofers are the spawn of Satan—the Prestige 95F offers a ton of value and performance. While it may not satisfy all listeners, that could be said of any speaker at any price. But I strongly recommend that those looking for speakers in this price range give the Paradigm Prestige 95F a serious audition. ■

⁵ See www.soundandvision.com/content/paradigm-prestige-15b-speaker-system-review.

HEAR IT RIGHT AT BROOKS BERDAN



FUN AND FABULOUS

The **McIntosh MC75** and **Spendor D7** together deliver an exciting, vibrant and altogether fun musical experience. Hear this fabulous combination in our House of Blues demonstration room.



CALIFORNIA'S PREMIER AUDIO STORE With our 7,000 square foot retail store, seven superbly appointed listening rooms and twenty-seven years experience setting up the world's finest audio systems, Brooks Berdan is the West Coast's leader in high-end audio. Visit the experts at Brooks Berdan and you'll hear it right!

AUDEZE • AUDIOQUEST • AURALIC • CARDAS • CHORD ELECTRONICS • DYNAVECTOR
ESTELON • GRADO • JADIS • JL AUDIO • KUBALA-SOSNA • LIGHT HARMONIC • LYRA
MAGICO • MANLEY • MCINTOSH • ORACLE • ORTOFON • ROGUE • ROKSAN • SCHEU
SME • SOUNDSMITH • SPENDOR • THORENS • VPI • WOLFE CINEMA • AND MORE

FURUTECH

Pure Transmission

Nano Crystal² Formula eliminates static, "interconverts" thermal, mechanical and electrical energy and damps vibrations — all for the finest Furutech Pure Transmission signal imaginable.

NCF Series



NCF Series

Nano Crystal² Formula ---NCF is comprised of a special crystalline material that has two "active" properties. First, it generates negative ions that eliminate static and secondly, it converts thermal energy into far-infrared. Furutech then combines this remarkable crystalline material with nano-sized ceramic particles and carbon powder for their additional "Piezo Effect" damping properties. The resulting Nano Crystal² Formula is the ultimate electrical and mechanical damping material —only found in Furutech products!

Visit us at
CES 2016



Venetian 29-118 & 29-112

Cable Company , Colossal Cables , Hi-Fi One , LE Designs

WWW.FURUTECH.COM

Elite
Audio Video Distribution

California (800)457-2577x22 (323)466-9694x24
info@eliteavdist.com
www.eliteavdist.com

FURUTECH

Pure Transmission



Nano-OFC Power cable

The secret to Furutech's world renowned Nano-OFC conductors is Furutech's extremely effective signal transmission enhancer that is incorporated into the cable strands literally as they are produced. Nano Liquid's Silver and Gold particles are so tiny (8 nano-meters in diameter (8/1000000mm) they cover the Alpha-OFC surface and "fill up" any tiny cracks and imperfections left on the conductor surface during the production process, increasing the electrical conduction area and drastically lowering the characteristic impedance of the cable. Additively realistic body, weight, and dimension are added to all signals in a realistic, natural, and dynamically expressive manner.



FP-1CS21 (14AWG)



FP-1CS31 (12AWG)



FP-S022N (14AWG)



FP-S032N (12AWG)

Alpha-PC Triple C Power cable

Furutech's NEW α (Alpha) PC-Triple C Power cable utilizes an ingenious proprietary forging process where variable high pressures are applied to high-purity oxygen-free copper tens of thousands of times, ultimately transforming the copper's crystal grain boundaries that were formerly in a vertical direction into a longitudinal orientation to allow the signal to flow more easily down the manufactured cable. The copper's crystals become much more well-connected and uniform, both physically and electrically, creating a much more highly conductive and sonically compelling conductor.

Visit us at
CES 2016



Venetian 29-118 & 29-112

Available from The Cable Company

WWW.FURUTECH.COM

Elite
Audio Video Distribution

California (800)457-2577x22 (323)466-9694x24
info@eliteavdist.com
www.eliteavdist.com

oppo



Fall in Love With Music Again.

When was the last time you fell in love with your music like it was the first time? The HA-1 headphone amplifier, USB DAC, and pre-amplifier breathes new life into your music with a clear audio signal and clean power from a custom toroidal power transformer. With incredibly clear and accurate audio, you can easily and comfortably listen to the most important part of your personal audio setup... the music you love.



Available in Silver or Black
HA-1 Headphone
Amplifier, DAC,
and Pre-Amp

\$699



Incredible Audio To Go
HA-2 Portable
Headphone
Amplifier & DAC

\$299

OPPO Digital, Inc. | www.oppodigital.com | Menlo Park, CA



ART DUDLEY

Audio Note CDT One/II & DAC 2.1x Signature

CD TRANSPORT & D/A PROCESSOR

I don't know much about horses, but I've been given to understand that dead ones don't respond to even the severest beating. In light of that, I'll make only this brief statement—

Even with the best playback gear of my experience, I don't derive as much pleasure from CDs as I do from LPs.

—and move on to a simpler truth: Regardless of what I think, CD players are still a necessity for most music-loving audiophiles.

The received wisdom of 20 or 25 years ago has been turned on its head: There are now many CDs whose contents will never be released on vinyl. Some are historical recordings, originally released on shellac, that have now been preserved on CD by archivists such as Ward Marston and Michael Graves. Others represent genres of music—folk and bluegrass come to mind—in which significant numbers of recordings are sold by the artists themselves, at performance venues and online. Still others are bootlegs (by which I mean live recordings and/or studio outtakes offered for sale outside of the usual channels, not pirated copies of *Frampton Comes Alive*). The CD, for which erstwhile LP buyers once paid a hefty premium, now seems poised to become the medium of the marginalized and the dispossessed. Who saw that coming?

For hobbyists who are content to use their computers as CD players, and/or to rip CDs to their hard drives: Be my guest. But remember that, the next time you upgrade or replace your computer, the new one probably won't have an



optical drive. Hey, no one saw *that* coming, either.

So: How much do you want to spend on that new CD player? Assuming you stuffed a \$10 bill in the cookie jar every time you bought a CD, as you were supposed to, you would now have \$10,000 to go with your collection of 1000 CDs. It is on that irrefutable logic that I have established my new baseline for reviewing CD players: Let's you and I find the best player we can for \$10,000—and let's start with

SPECIFICATIONS

AUDIO NOTE CDT ONE/II TWO-CHANNEL CD TRANSPORT. Output 1 single-ended S/PDIF (RCA), 1 AES/EBU (XLR). Optical pickup: 3-beam laser. Weight: 11lbs (5kg).

Serial number of unit reviewed CDT1-033.
Price \$4100.

AUDIO NOTE DAC 2.1X

SIGNATURE TWO-CHANNEL DIGITAL-TO-ANALOG CONVERTER. Tube complement: one 6X5, two 6H23N. Inputs 1 AES/EBU (XLR), 1 S/PDIF (RCA). Maximum resolution/sample rate: 18 bits/96kHz. Channel balance: <0.25dB. Analog output impedance: <2k ohms. Reference output: 3.0V RMS (approximate).

Weight: 17.6lbs (8kg).
Serial number of unit reviewed Y2SV2-23.
Price \$5500.

BOTH

Dimensions (each) 11.7" (300mm) W by 5.7" (145mm) H by 16.2" (415mm) D.
Finishes (front panel) Brushed Aluminum, Black

Acrylic.

Approximate number of dealers: 5. Warranty: 2 years (90 days for tubes).

Manufacturer Audio Note UK, Ltd., 25 Montefiore Road, Hove, East Sussex BN3 1RD, England, UK.
Tel: (44) 1273-220-511.
Web: www.audionote.co.uk.
US distributor: as above.

The hard reality is that audio cables can only do damage: they can blur or smear information, distort phase relationships, destroy detail and add colouration. Bad cables can – and all too often do – ruin the best of systems.

To make the best cables, the ones that do the least damage, takes years of experience and accumulated knowledge, the development of new techniques and proprietary technology – and a willingness still to learn...

In performance terms, that's when evolution sparks revolution.



Siltech - years of excellence are no accident.

www.siltechcables.com

Distributed in the USA by Audio Plus Services 800.663.9352 www.audioplusservices.com
Distributed in Canada by Plurison 866.271.5689 www.plurison.com

Audio Note's combination of CDT One/II CD transport (\$4100) and DAC 2.1x Signature digital-to-analog converter (\$5500).

Description

Hobbyists who've kept up with the steady stream of audio-show coverage on Stereophile.com and elsewhere know two things about Audio Note UK:

1) Their demonstrations, usually conducted by the company's estimable David Cope, are often hailed as Best of Show by attendees, journalists, and even the occasional honored competitor.

2) Most of Audio Note's show systems of the past few years have used, as their sole digital source, the combined forces of the CDT One/II and DAC 2.1x Signature. That's why I decided to write about them.

I'll let you in on something else: Cope has shared with me his view that this combination is a standout in the Audio Note line in terms of offering high value—higher, even, than AN's CD-4.1x CD player (\$12,000), which I reviewed positively in *Stereophile's* July 2012 issue.¹ That one-box source component combined Audio Note's CDT Two/II CD transport with their DAC 2.1x DAC. By contrast, the combination presently under review apportions the buyer's funds somewhat differently—better DAC, humbler transport—for a lower total price (\$9600), while offering the advantage of one-stage-at-a-time upgradability.

The CDT One/II is an ostensibly simple thing: Inside this front-loading model, a Philips L1210/S transport and its integral logic board are mounted atop three robust nylon pillars, themselves bolted to the floor of the steel chassis. (The casework used for various Audio Note components is somewhat modular: Each basic chassis size is used for a number of different products, enabling what appears to be a just-in-time manufacturing style.) Behind the aluminum faceplate is a second, larger logic board, made in-house and containing the basic user controls—buttons for open/close, stop, play/pause, back and forward skip—as well as the bits

needed for communicating with the CDT One/II's rather basic remote-control handset.

A length of Audio Note's AN-V symmetrical-silver coaxial cable carries the digital signal to a small output board, which itself connects to both balanced (XLR) and single-ended (RCA) outputs. The last and largest element inside the CDT One/II is its power-supply board, which contains two separate mains transformers and three solid-state rectifiers.

An even more robust power supply, built around a distinctly large mains transformer and a similarly chunky

CD players are still a necessity for most music-loving audiophiles.

choke—both made by Audio Note—is at the heart of the DAC 2.1x Signature. The DAC's power-supply board, which is one of three PCBs in this product, is equipped with a bridge rectifier, although a new-old stock (NOS) Philips 6X5 rectifier tube is also present. While the division of labor wasn't immediately apparent, I assumed the tube serves the converter's analog circuitry.

The DAC 2.1x Signature is addressed by a choice of balanced (XLR) or single-ended (RCA) S/PDIF digital inputs. (A USB input is not provided.) The rear-mounted toggle switch that selects between them is this product's only user control, apart from its power switch. The DAC's digital board, preceded by an Audio Note digital-input transformer of surprising bulk, is built around a hand-selected Analog Devices 1865 chip: a two-channel, 18-bit DAC so preferred by Audio Note that they not long ago bought 1000 of them. Audio Note's own can-style transformers are central to the current-to-voltage section: The non-oversampling DAC 2.1x Signature doesn't use digital or analog filtering, but AN claims that transformer coupling at the I/V stage applies to the analog output signal an appropriate degree of treble

¹ See www.stereophile.com/content/audio-note-cd-41x-cd-player.

MEASUREMENTS

I measured the Audio Note CDT One/II and DAC 2.1x Signature with my Audio Precision SYS2722 system (see www.ap.com and the January 2008 "As We See It," <http://tinyurl.com/4ffpve4>), the two components connected via Audio Note's supplied S/PDIF link. I

also tested the D/A processor via its AES/EBU input. (This input locked to data with sample rates up to 96kHz, but not higher.) The transport began muting once per revolution of track 34 of the Pierre Verany label's *Digital Test* CD, which has 2mm gaps in its data spiral; the CDT One/II muted completely on track 35, which has 2.4mm gaps. The transport's error correction is better than that required by the CD standard, but is not as good as other current transports. The DAC 2.1x's maximum output level was 2.65V, and it preserved absolute polarity (ie, was non-inverting). The output impedance at high and middle frequencies was high, at 900 ohms, rising to a ridiculous 15k ohms at 20Hz, presumably due to the tubed output stage being anode-coupled. The Audio Note DAC

needs to be used with preamplifiers that have an input impedance of at least 100k ohms if the low frequencies are not to sound lean.

As with Audio Note's CD-4.1x CD player, which Art Dudley reviewed in July 2012,¹ the DAC 2.1x outputs a broken-looking sinewave (fig.1). This is because the player lacks a low-pass reconstruction filter, and each sample presented to the DAC chip results in a DC output voltage that is sustained until the next sample. However, with 44.1kHz data, while the DAC 2.1x's impulse response (fig.2) is an almost perfect delta function, looking at the D/A processor's frequency response with 44.1 and 96kHz data (fig.3), it appears that there is some equalization

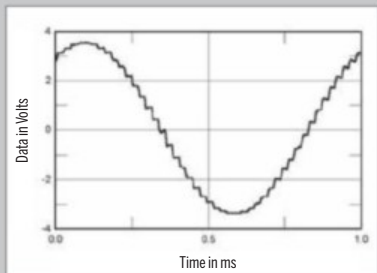


Fig.1 Audio Note DAC 2.1x Signature, waveform of 1kHz sinewave (1ms time window).

¹ See www.stereophile.com/content/audio-note-cd-41x-cd-player.

Astell&Kern

ULTIMATE HIGH FIDELITY SOUND SYSTEM



AK T8iE
with AK380



AK380 Package

THE ESSENCE OF TESLA TECHNOLOGY

AK T8iE



Collaboration with beyerdynamic
Tesla Technology inside
Anatomically shaped for perfect fit
Detachable MMCX cables(2.5mm & 3.5mm)
Handmade in Germany

compensation. Voltage gain is provided by a stereo pair of Russian 6H23N dual-triode tubes, partnered by Audio Note copper-foil-in-oil coupling capacitors; the amplified signal is handed off to the DAC's single-ended RCA output jacks by a double run of Audio Note AN-V cable, also symmetrical silver.

Installation and setup

Installation was unmarked by tragedy: The two identically sized Audio Note components fit on the top level of my Box Furniture equipment rack, alongside my Shindo Maseto preamplifier. Neither generated noise or excessive heat. (During use, the DAC 2.1x Signature became mildly warm to the touch; the CDT One/II stayed as cool as a cucumber.) Once both products were installed in my system, I left them powered up 24/7.

Transport and DAC were linked by a 1m-long, single-channel run of Audio Note's AN-Vx silver interconnect (ca \$750), loaned to me, for review purposes, by David Cope; coincidentally, I also own and use a 1.5m length of the same cable, configured as a stereo interconnect. I am not a cable agnostic, but neither am I the sort of religious fanatic who foams at the mouth and rolls around on the floor between the pews. That said, I do tend to enjoy Audio Note's silver interconnects, which always impress me as being audibly distinct from competing products at any price, and which suit the sound of my system by honoring, in particular, instrumental and vocal colors and textures.

I didn't experiment with power cords, isolation devices, or other accessories during my time with the Audio Notes.

Listening

My listening notes contain more than one reference to how



Inside the DAC 2.1x Signature.

the sound of CD playback *loaded* my room more realistically—more in the manner of real music—with the Audio Note combination than with my reference Sony SCD-777 SACD/CD player. That's a difficult thing to describe, and perhaps an impossible thing to quantify; to me, it has to do with the sense that the best playback allows the music to breathe in and out, rather than letting it hang static and dead in the air of the room. Also, good room loading allows low-frequency notes to sound lively—imagine a bow bounced on the low E string of a double bass—yet still powerful and weighty.

It's easy to imagine how that admittedly ephemeral characteristic might be affected by the ways two loudspeakers interact with the listening room, or even with how an amplifier interacts with those speakers. But a CD player? The connection isn't quite as obvious. And yet, after I did

measurements, continued

to compensate for the top-octave roll-off associated with the DAC's aperture effect.

This was confirmed by wideband spectral analysis of the Audio Note's output as it decoded data representing 44.1kHz-sampled white noise at -4dBFS (fig.4, red and magenta traces). The output rolls off very slowly above the audioband, with sharply defined nulls at 44.1 and 88.2kHz. There is virtually no suppression of the aliased

images of the audioband data, which means that the image at 25kHz of a full-scale 19.1kHz tone (blue and cyan traces) lies at almost the same level. There is also a second-order intermodulation product of the 19.1 and 25kHz tones at 5.9kHz and -54dB (0.2%).

Channel separation was excellent, at >120dB below 2kHz, and still 112dB at the top of the audioband. Spectral

analysis of the DAC 2.1x's noise floor revealed a higher level of random noise in the left channel, with power-supply-related spurious present in the right channel. These can be seen in fig.5, which shows spectral analyses of the DAC 2.1x's output when fed first dithered 16-bit data representing a 1kHz tone at -90dBFS, then 24-bit data representing the same signal.

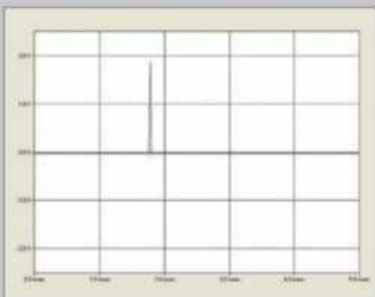


Fig.2 Audio Note DAC 2.1x Signature, impulse response at 44.1kHz (4ms time window).

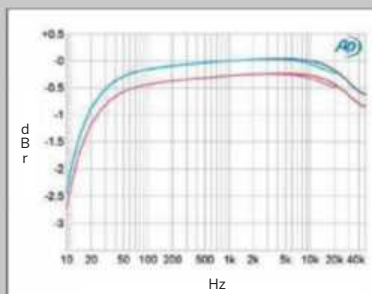


Fig.3 Audio Note DAC 2.1x Signature, AES/EBU input, frequency response at -12dBFS into 100k ohms with data sampled at: 44.1kHz (left channel cyan, right magenta), 96kHz (left blue, right red) (0.5dB/vertical div.).

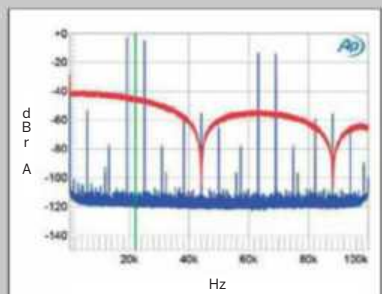


Fig.4 Audio Note DAC 2.1x Signature, wideband spectrum of white noise at -4dBFS (left channel red, right magenta) and 19.1kHz tone at 0dBFS (left blue, right cyan), with data sampled at 44.1kHz (20dB/vertical div.).



SOUND THAT STIRS THE SOUL.

Introducing the Mark Levinson N° 536 Monaural Amplifier.

Building on our uncompromising heritage of amplifier design, Mark Levinson engineers have developed a fully differential, fully discrete monoblock amplifier that is capable of driving virtually any loudspeaker with superior clarity and dynamic range. Engineered and handcrafted in the United States, the N° 536 elevates your audio system with unsurpassed levels of musical exhilaration and the confidence of proven performance that stands above the rest. Discover the N° 536 monaural amplifier and experience audio purity like only Mark Levinson can deliver. [Learn more at marklevinson.com](http://marklevinson.com)

.....

mark levinson



©2015 HARMAN International Industries, Incorporated. All rights reserved. Mark Levinson is a registered trademark of HARMAN International Industries, Incorporated, registered in the United States and/or other countries. Features, specifications and appearance subject to change.

most of my listening for this review, I went back and looked at what I'd written about the Audio Note CD-4.1x and noted the following: "When I listened to CDs on the Audio Note player, recorded voices and instruments came closer than usual to loading my room in the manner of live voices and instruments." At the time, the effect was probably compounded by my having used the Audio Note player with Audio Note speakers, the latter being known to me for that very quality.

In a similar vein, the combination of CDT One/II and DAC 2.1x Signature produced greater-than-average levels of what Herb Reichert calls "flesh and blood." With "Weight of Love," from the Black Keys' *Turn Blue* (CD, Nonesuch 7559-795554), the sound of the Audio Notes was distinguished by much greater heft and substance, and a larger sense of scale, than that of my Sony player: The British two-boxer sounded, quite simply, meatier: The stiffly played acoustic guitar that kicks off this number's long, "Down by the River"—like introduction was more timbrally rich and real through the Audio Notes, and the drums—what a great sound Patrick Carney gets!—didn't have the same huge, reverberant, verge-of-chaos sound when I played this CD in the Sony. Even the Audio Notes' spatial performance was superior—or, at least, more to my taste: Within that invitingly large soundfield, Dan Auerbach's lead vocal was solidly anchored at center stage, but set back just a bit from everything else—the latter distinction not quite as evident through the SCD-777.

But there was even more to the distinction: When played through the Audio Note CDT One/II and DAC 2.1x Signature, "Weight of Love" was simply more compelling, exerting a tighter grip on my attention. I came back to this track for a later comparison, switching up the playing order



Inside the CDT One/II CD transport.

to make certain the above conclusions hadn't been simply a matter of listener fatigue; the Audio Notes endured as the more involving gear.

My appetite for spacey electric guitar unsated, I followed up with the title track of Robin Trower's *Bridge of Sighs* (CD, Chrysalis/Mobile Fidelity Sound Lab UDCD 684), which I hadn't heard in years. Those years had not been kind to the music—Trower was and is a fine guitarist, but the humorlessness of the lyrics, and of the late James Dewar's lead vocal, were a drag on my efforts to rekindle any long-dormant enthusiasm—and the sound of this recording was, through both CD players, bassless and small. Was the Audio Note duo a bit richer in timbre, and more revealing of what little nuance could be gleaned from that standard-issue bloozey vocal? It seemed so—but the distinction didn't seem to be of

measurements, continued

While fig.5 reveals that the increase in bit depth has dropped the noise floor by around 9dB, of more significance is the fact that the small amounts of second- and third-harmonic distortion with 16-bit data have been replaced by much higher levels of the third, fifth, seventh, and ninth harmonics. This indicates that, as expected from its use of an AD1865 DAC chip, the Audio

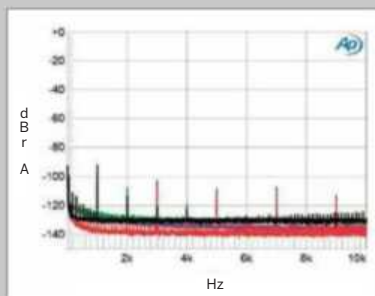


Fig.5 Audio Note DAC 2.1x Signature, AES/EBU input, spectrum with noise and spurs of dithered 1kHz tone at -90dBFS with: 16-bit data (left channel green, right gray), 24-bit data (left blue, right red) (20dB/vertical div.).

Note's AES/EBU input truncates 24-bit data. So while its AES/EBU input will operate up to 96kHz, the DAC 2.1x is not a high-resolution DAC.

With undithered 16-bit data representing a tone at exactly -90.31dBFS (fig.6), the three voltage levels described by the data are not very well defined, and are overlaid with high-frequency noise. The waveform was not significantly different with undithered

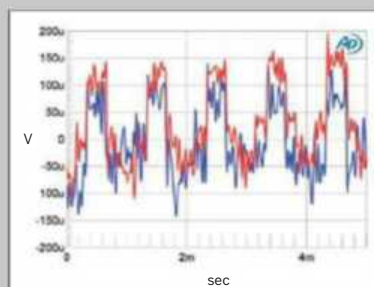


Fig.6 Audio Note DAC 2.1x Signature, waveform of undithered 1kHz sine wave at -90.31dBFS, 16-bit data (left channel blue, right red).

24-bit data (not shown).

With a full-scale signal into 100k ohms, the DAC 2.1x offered relatively high levels of second- and third-harmonic distortion (fig.7). However, reducing the signal level by 10dB dropped the level of the second harmonic by more than 12dB (fig.8). Testing the Audio Note DAC with an equal mix of 19 and 20kHz tones resulted in an output spectrum (fig.9) dominated by the poor

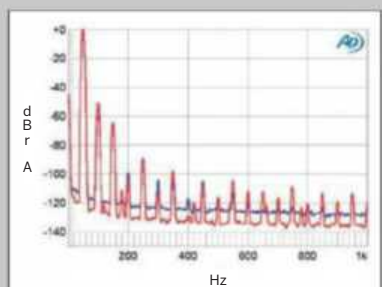


Fig.7 Audio Note DAC 2.1x Signature, spectrum of 50Hz sine wave, DC-1kHz, at 0dBFS into 100k ohms (left channel blue, right red; linear frequency scale).

INTRODUCING Venom Series Signal Cables

VENOM Series Signal and Speaker Cables represent fifteen years of Shunyata Research's evolved technical innovation and custom-parts engineering. The over-reaching goal was to create products that possess peerless quality and performance, *at real-world prices*. You'll find that the finest in signal cable performance need not cost a fortune.

INTERCONNECT FEATURES

- OHNO — Continuous Cast Copper
- VTX™ Conductors (*hollow-core*)
- Premium Shunyata XLR and RCA Connectors
- 100% coverage braided shield
- Stunning Aesthetic
- Very Flexible Cables
- Incredible Value
- **US Retail: \$295**

SPEAKER CABLE FEATURES

- OFE 101 Certified Copper
- VTX™ Conductors (*hollow-core*)
- 100% coverage electro-static shielding
- STIS — Interchangeable Speaker Cable Terminals
- Stunning Aesthetic
- Very Flexible Cables
- Incredible Value
- **US Retail: \$595**



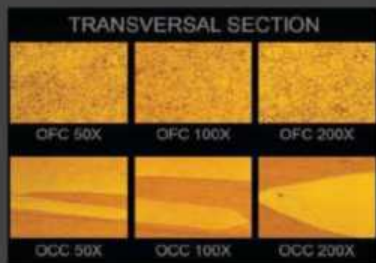
Shunyata XLR Connectors



STIS Interchangeable Terminals



Shunyata RCA Connectors



OHNO - Continuous Cast Copper



VTX™ Conductors



OFE 101 Certified Copper



much consequence. (CD for sale!)

Now that my RotoVibe ticket had been punched, I moved on to solo-piano music, beginning with a favorite collection of Chopin Waltzes, Mazurkas, and other pieces, performed by Witold Malczuzynski (CD, EMI 5 68226 2). Listening to the Waltz No.3 in a, Op.34 No.2, I was impressed by the Audio Notes' musicality—their ability to convey subtle variations in tempo and intensity and to play lines of notes with their momentum and flow intact. The first thing that came to mind was that some notes in the left hand were so timbrally complex that they seemed freighted with an excess of texture: the sound wasn't buzzy or fuzzy, but it skated right up to the border of same, and I found myself wishing for a little more fundamental and a little less overtone. I checked this impression with an AIFF file ripped from the same CD, played through the Halide DAC HD—itself noted for being slightly on the timbrally rich side—and confirmed that the computer-audio rig offered a clearer sound on those left-hand notes. That said, I ultimately found the Audio Note combination to be more musically compelling. The many modulations in the Waltz No.8 in A-flat, Op.64 No.3, notably the extended passage in C, made more sense when I listened to this CD through the Audio Notes.

Not long after that, I found myself in the mood to hear some selections from the 2001 reissue of George Harrison's masterpiece, *All Things Must Pass* (2 CDs, Gnome/EMI CDP 30474 2): a wretched-sounding remastering by Jon Astley, and cursed with a foolish and ill-advised reimagining of the original's austere cover art (not that I have an opinion on the matter). The harsh highs were, if anything, a little more grating through the Audio Notes than I heard from CD rips of the album played from my Apple iMac through my Halide DAC HD processor. It dawned on me: As good as

ASSOCIATED EQUIPMENT

Analog Sources Garrard 301, Thorens TD 124 turntables; Abis SA-1.2, EMT 997 tonearms; EMT OFD 25 & OFD 15 & TSD 15 pickup heads; Denon DL-103, Miyajima Premium BE Mono II cartridges.

Digital Sources Halide Designs DAC HD USB D/A converter; Apple iMac G5 computer running Audirvana Plus 1.5.12; Sony SCD-777 SACD/CD player.

Preamplification Hommage T2 step-up transformer, Shindo Laboratory Aurigues Equalizer Amplifier phono preamplifier, Shindo Masseto preamplifier.

Power Amplifiers Shindo Laboratory Corton-Charlemagne monoblocks.

Loudspeakers Altec Valencia, DeVore Fidelity Orangutan O/96.

Cables USB: Wireworld Revelation 2.0. Interconnect: Audio Note AN-Vx, Nordost Blue Heaven, Shindo Laboratory Silver. Speaker: Auditorium 23. AC: Manufacturers' stock cords.

Accessories Box Furniture Company D3S rack (source & amplification components), Audiodesksysteme Gläss Vinyl Cleaner.—Art Dudley

the Audio Notes were at bringing out the goodness of good recordings, they also had a knack for accentuating the badness of certain types of bad recordings. Which is to say: The CDT One/II and DAC 2.1x Signature spent most of their time shouting the truth, not whispering pretty lies.

From there on, I decided to focus only on good CDs.

CONTINUED ON PAGE 149

measurements, continued

rejection of ultrasonic images seen earlier. Actual intermodulation distortion was relatively low, the 1kHz difference product lying close to -60dB (0.1%).

Finally, tested with 16-bit J-Test data, the Audio Note duo showed poor rejection of word-clock jitter (fig.10), with a significant increase in the levels of the odd-order harmonics of the low-frequency, LSB-level squarewave

(the correct levels are indicated by the green line). Though slightly better with 16-bit AES/EBU data, the picture was still much worse than is usual with modern processors.

Overall, it is difficult to avoid the temptation to describe the Audio Note DAC 2.1x Signature as "broken"! But other than its poor rejection of jitter, most of its measured problems stem

from the decision to dispense with the usually obligatory reconstruction filter. Without those filter-related issues, you are left with a product whose distortion signature is predominantly the subjectively preferred second harmonic, but also a product that should not be used with preamplifiers of low input impedance.—John Atkinson

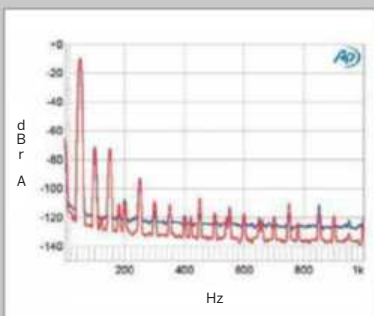


Fig.8 Audio Note DAC 2.1x Signature, spectrum of 50Hz sinewave, DC-1kHz, at -10dBFS into 100k ohms (left channel blue, right red; linear frequency scale).

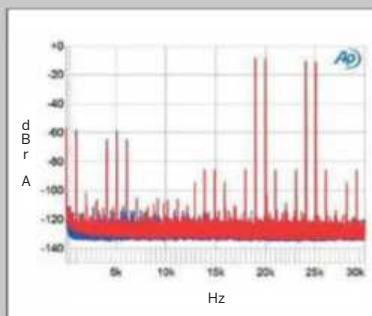


Fig.9 Audio Note DAC 2.1x Signature, HF intermodulation spectrum, DC-30kHz, 19+20kHz at 0dBFS into 100k ohms, 44.1kHz data (left channel blue, right red; linear frequency scale).

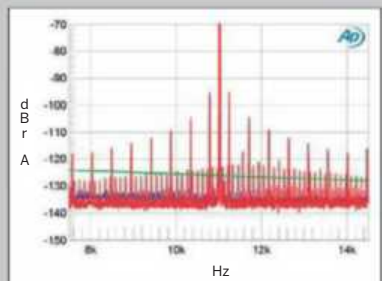


Fig.10 Audio Note DAC 2.1x Signature, high-resolution jitter spectrum of analog output signal, 11.025kHz at -6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit data via S/PDIF from CDT One/II (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, ± 3.5 kHz.

JERRY RASKIN'S NEEDLEDOCTOR

Established 1979

WWW.NEEDLEDOCTOR.COM



PRO-JECT REFERENCE PHONO PARTNER

**NEW PRO-JECT DEBUT
CARBON DC TURNTABLE ▶**

*** LIMITED TIME SALE \$399.00**
REGULAR PRICE \$449

- ▶ INCLUDES ORTOFON 2M RED CARTRIDGE
- ▶ CARBON FIBER TONEARM
- ▶ AVAILABLE IN 7 COLORS



SWEET TUBE SOUND WITH AUDIOPHILE VERSATILITY!

PRO-JECT TUBE BOX S PHONO PREAMP (Available in Black or Silver) ▶

ONLY \$449.00

Carefully selected audiophile-grade components make it possible to enjoy your valuable vinyl collection like never before! The **PRO-JECT TUBE BOX S** has warmth, bass texture, and detail resolution that will breath life into your analog system.



Toll Free 800.229.0644 | Phone 612.378.0543 | Fax 612.378.9024
Email info@NeedleDoctor.com | 6006 Excelsior Blvd., St. Louis Park, MN 55416

**WORLD'S LARGEST SELECTION
OF TURNTABLES, CARTRIDGES, AND NEEDLES!**

JERRY RASKIN'S NEEDLEDOCTOR

Established 1979

WWW.NEEDLEDOCTOR.COM

HAND-BUILT IN THE USA

GRADO GOLD1 PRESTIGE SERIES PHONO CARTRIDGE ▶

ONLY \$260.00

"The **PRESTIGE GOLD**, however, seemed to be sweeter than most. It was lively and detailed but never edgy on vocal sibilants, and didn't over-emphasize leading edges on acoustic guitar. Gold? Smooth? Mellow Yellow!"

- Alan Sircom, *HI-FI CHOICE*



GRADO'S PRESTIGE SERIES CARTRIDGES



GRADO SILVER1
PRESTIGE SERIES
PHONO CARTRIDGE
\$225

GRADO RED1
PRESTIGE SERIES
PHONO CARTRIDGE
\$170

GRADO BLUE1
PRESTIGE SERIES
PHONO CARTRIDGE
\$125

GRADO GREEN1
PRESTIGE SERIES
PHONO CARTRIDGE
\$95

GRADO BLACK1
PRESTIGE SERIES
PHONO CARTRIDGE
\$75



Toll Free 800.229.0644 | Phone 612.378.0543 | Fax 612.378.9024
Email info@NeedleDoctor.com | 6006 Excelsior Blvd., St. Louis Park, MN 55416

**WORLD'S LARGEST SELECTION
OF TURNTABLES, CARTRIDGES, AND NEEDLES!**

JERRY RASKIN'S NEEDLEDOCTOR

Established 1979

VISIT US ON FACEBOOK
www.facebook.com/needledoctor

Toll Free 800.229.0644 | Phone 612.378.0543 | Fax 612.378.9024
Email info@NeedleDoctor.com | 6006 Excelsior Blvd., St. Louis Park, MN 55416

SPIN CLEAN RECORD WASHER \$79.99 ▼



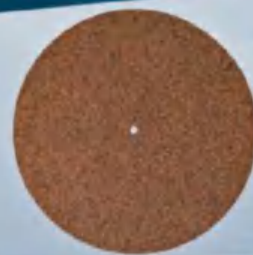
The amazing manual record cleaning machine!

MOBILE FIDELITY ORIGINAL MASTERS SLEEVES 50 PK \$20 ▼



Mobile Fidelity Inner Sleeves Have Been the Industry Standard for Over 30 Years! The BEST Protection for your Irreplaceable Vinyl!

SIMPLE MAT RECORD MAT \$26.95 ▼



I love this mat! The sonic virtues are apparent immediately - bass tightens up, vocals come forward, and more air is put around the instruments. - BRIAN LICKEL, ND

GRUV GLIDE \$39.95 ▼



"Lowers noise, cleans as it works to remove dirt that hides information and leaves a beautiful sheen to my records." - ND Customer Review

LKG DIGITAL STYLUS FORCE GAUGE \$50 ▼



Never second guess your tracking force again! Easy to use and accurate to within 0.01 grams.

MOBILE FIDELITY GEO DISC \$50 ▼



One of the most popular and easy to use cartridge alignment tools ever produced!

ONZOW ZERO DUST \$69 ▼



Discover the Onzow difference! Clean your stylus like never before!

stereophile
RECOMMENDED
COMPONENT

MUSIC HALL ACRI-PLAT TURNTABLE PLATTER \$125 ▼



"The sound stage became more detailed. And of course, static and background noise is notched down a bit. My music sounds a lot more lively and dynamic. Couldn't be happier with this platter!"

AUDIOQUEST CARBON FIBER BRUSH \$15 ▼



For every day dustbusting I wouldn't kick Audioquest record brush off my vinyl either. - MICHAEL FREMER, Stereophile

www.needledoctor.com

MORE THAN A POWERED SPEAKER



◀ AUDIOENGINE 5+ POWERED BOOKSHELF SPEAKERS

BAMBOO \$469 /pair
GLOSS BLACK OR WHITE \$399 /pair

"Dynamic, well designed, and well made, the 5+ offers an elegant solution to the problem of choosing a high value desktop/nearfield monitor."

- STEVEN STONE, "Playback", AVGuide.com

- ▶ Remote Control
- ▶ Variable line out
- ▶ Full sized, 5 way binding posts
- ▶ USB power and mini-jack input
- ▶ RCA Input
- ▶ 3 year warranty

OUR BEST-SELLING PACKAGE DEAL!

DENON DP300F TURNTABLE WITH ORTOFON 2M RED ▶

ONLY \$419.00

The convenience of an automatic turntable and the fidelity of a top-notch Ortofon cartridge, expertly mounted and aligned by the Needle Doctor staff!

"This has to be the best automatic turntable on the market in this price range. You really won't be disappointed. I have no problem giving this turntable 5 stars. The sound is excellent and that is all that matters" - MIKE K, Needle Doctor Customer



Toll Free 800.229.0644 | Phone 612.378.0543 | Fax 612.378.9024
Email info@NeedleDoctor.com | 6006 Excelsior Blvd., St. Louis Park, MN 55416

**WORLD'S LARGEST SELECTION
OF TURNTABLES, CARTRIDGES, AND NEEDLES!**



BLADE & BLADE TWO



UNCOMPROMISED INNOVATION

Just as KEF's philosophy has always been to innovate in pursuit of the most accurate and realistic sound, the Blade Series speakers are about perfecting a groundbreaking concept to delight people who really love music.

Whatever your taste, Blade and Blade TWO are what all great design aspires to: being the best they can possibly be.

For a complete list of Blade Dealers, please visit **our website**.



JON IVERSON

Apogee Electronics Groove

D/A HEADPHONE AMPLIFIER

Apogee Electronics Corp. has been in business for 30 years, and I've always thought of them as one of the pro-audio companies responsible for moving digital in the right direction. They've made their mark in recording studios around the planet with digital-audio interfaces and master clocks that have long been considered some of the most technically and sonically advanced, and that were probably used in a high percentage of the recordings in your collection. So when I saw Apogee pop up at the consumer end of the market with a technically unique product, budget-priced at \$295, it got my attention.

The Apogee Groove USB DAC-headphone amp has a USB Micro B input at one end and a mini ($\frac{1}{8}$ ") headphone jack at the other. Its machined-aluminum case is just under 4" long, a bit over 1" wide, and half an inch thick; it feels very solid, and has a nice, grippy rubber pad on the bottom. You could probably melt down four AudioQuest DragonFlys and pour them inside. A small recess at one corner, bridged by a metal bar, forms a leash loop. There are also 30th Anniversary models in silver and gold (\$595), which Apogee describes as offering enhanced performance. I listened to the standard black version.

On the Groove's top surface are two black, rubbery, $\frac{1}{2}$ "-diameter pushbuttons, for volume up/down. Between them is a column of three multicolor LEDs. Rather than indicating the incoming signal's sample rate, as with other DACs, these LEDs function together as an output-level meter, responding to the music's dynamic peaks and dips. When you push



either volume button, the lights temporarily turn from blue to violet, to indicate level; although there are only three of them, each dims as you lower the volume, so the Groove gives a pretty good idea of the volume level.

The Groove employs asynchronous clocking, and uses an eight-channel ESS Sabre 32-bit DAC chip in a Quad Sum design (four DACs per channel) that can handle PCM streams of resolutions up to 24-bit/192kHz. Powered solely through the USB bus, the Groove got noticeably warm after a few hours: My infrared thermometer measured about 100°F at the center of the top panel. I'm guessing it will drain a laptop's battery quicker than most.

A note about connecting: As with all of the USB-powered DAC-headphone amps I have, I was able to easily use the Groove with my Mac laptop, but it didn't work with my iPad Air or iPhone 6 when attached to them with Apple's USB camera adapter, generating the warning "The attached accessory uses too much power." I've seen mentions online of some USB-hub workarounds to solve this problem, but I didn't try any for this review. The Groove can also be connected to powered desktop speakers.

A Current Affair

The circuits of almost all headphone amplifiers—99% of them—are "voltage drive" designs. What makes the Groove special is that it is a variation of a "current drive" headphone amp—or, as Apogee calls its approach, Constant Current Drive.

All headphones have a set impedance (resistance) determined by such things as the thick-

SPECIFICATIONS

Description USB DAC/headphone amplifier. Input: USB Micro B 2.0 port. Output: 3.5mm headphone jack. Resolution/sample rates: 24 bits/192kHz. DAC chip: eight-channel ESS (4 DACs per channel). THD+N: -107dB, 600 ohm load at

16dBu; -100dB, 30 ohm load at 10.5dBu. Dynamic range: 117dB (A-weighted). Frequency response: 10Hz-20kHz, ± 0.2 dB. Maximum output: 225mW into 30 ohms, 40mW into 600 ohms. Power: 5V, 500mA via USB 2.0 bus.

Dimensions 3.7" (95mm) L by 1.2" (30mm) W by 0.6" (16mm) D. Weight: 1 $\frac{3}{4}$ oz (45.35gm).

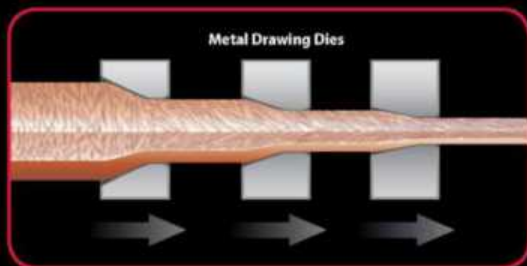
Serial number of unit reviewed G1E100151900145.

Price \$295. Approximate number of dealers: 25. Warranty: 1 year for parts,

labor, and technical support; extended warranties and premium technical support available at additional cost.

Manufacturer Apogee Electronics Corp., 1715 Berkeley Street, Santa Monica, CA 90404. Web: www.apogeedigital.com.

Directionality: It's All About Noise



If you've taken a close look at the packaging for any one of our analog or digital cables, read any of our educational or marketing documents, or merely followed any of the online chatter regarding our products, you've probably seen something about "directionality."

Perhaps you've wondered what directionality is all about.

There is, of course, the widely accepted version of directionality: In most audio-grade shielded interconnects, as compared to standard coax, negative has its own internal conductor and the metal shield is attached to ground at only one end, thus defining the cable's directionality. Many cable manufacturers end their exploration of directionality there, going only as far as to mark their cables for directionality based on the relationship of shield to ground, but altogether neglecting conductor directionality. Because we believe in directing noise to where it can do the least harm, we, too, believe in the advantages of controlling for the attachment of the shield. In fact, long before we controlled for conductor directionality, AudioQuest interconnects were also controlled for direction based on the relationship of shield to ground.

Yet, our exploration of directionality has continued to evolve and progress. In the simplest terms, we state that our conductors have been "controlled for low-noise directionality." But what do we *mean* by that?

Over the years, our own understanding of conductor directionality and its effect on audio performance has steadily evolved, growing stronger and more complete. While we've always been keenly aware that directionality plays a significant role in the overall sound of any hi-fi system, we couldn't completely explain it. This was okay: We trust our own ears and encourage listeners to do the same. The test is easy enough: Simply listen, then reverse the direction of the cable, and listen again.

In one direction, music will sound relatively flat and a little grainy, as though being forced through a screen door. In the opposite direction, the obstruction is removed and music will be communicated with a natural ease, depth, and an open invitation to pleasure. When presented with a cable whose conductors have been controlled for the correct low-noise directionality, a listener feels a sense of comfort and relief: *Ahh...Music!*

But, for many, including us, a topic such as directionality demands an explanation that is grounded in science as much

as it is reinforced by emotional impact. What is the *technical* explanation for directionality?

In order to fabricate copper or silver into a strand or conductor, it must first be cast and then drawn through a die—a process that inevitably creates a directional, chevron-like pattern in the conductor's internal grain structure. While some have worked to eradicate conductor directionality and others have decided to ignore it altogether, we have learned to use conductor directionality to our advantage.

The conductor's asymmetrical grain structure creates a difference in impedance in one direction vs. the other at very high-noise and interference frequencies. Due to skin-effect, such high frequencies travel almost exclusively on the surface of a conductor, giving significance to the directional difference in impedance at these frequencies. High-frequency interference will *always* take the path of least resistance. When a cable is oriented so that the high-frequency noise, whether from a computer, radio station, cell tower, etc., is "directed" to ground, or to the end of the cable attached to less vulnerable equipment, the dynamic intermodulation and associated ringing generated in the active electronics will be greatly reduced.



Noise-Dissipation System, Dielectric-Bias System, JitterBug USB filter, Niagara 1000, and Niagara 7000—all work toward the proper dissipation of noise to enable cleaner, clearer, more naturally beautiful music.

Our efforts toward the proper dissipation of noise are not limited to our analog and digital cables, but extend to other AudioQuest products, as well—most recently evidenced in our Niagara 1000 and 7000 Low-Z Power Noise-Dissipation Systems, in which every single link in the conducting path has been properly controlled for low-noise directionality.

As always, the proof is in the listening.

The unpleasant, strained sound that occurs when conductors have the wrong orientation is the result of noise entering and causing misbehavior and intermodulation in an active circuit. The more relaxed, full-bodied sound of correctly oriented conductors is the product of less high-frequency interference—conductor directionality fully acknowledged and put to its best use!

Ahh...Music!

audioquest.

ness and amount of wire used in their voice-coils. They also have what's called a reactive impedance, due to driver resonance and other acoustic factors. Therefore, the total impedance of some headphones, measured against their frequency response, will look like an undulating curve. In other words, some headphones' impedance can bounce around a lot when reproducing music.

The amp's job is to provide power to the headphones in the form of voltage (pressure) and current (flow), which respond to the headphones' impedance and the volume level selected. A good rule of thumb: An amplifier's output impedance should be lower than the impedance of the headphones you're using by a factor of eight or so.

In a voltage-drive amp, the voltage gain is kept constant while the current fluctuates to accommodate the changes in impedance. The opposite is true for current-drive amps, where the current gain is held constant and the voltage fluctuates with impedance. Because current is what moves headphone diaphragms back and forth to move air and thus create soundwaves, having the current modulate with the impedance is not a good thing, and keeping the current steady should be an advantage. Apogee's Constant Current Drive is a variation of this second approach.

But if current drive is a better design, why doesn't everyone use it? I asked Tyll Hertsens, editor of our companion website InnerFidelity.com, and he cited two reasons: 1) Headphones are generally already voiced to compensate for the impedance problems with voltage drive. 2) Current-drive amps inherently have very high output impedances and, typically, poor damping factors.

When I asked Tyll if he was aware of any other current-



With its grippy rubber pad, the Groove is gentle on hardwood floors.

The Groove got noticeably warm after a few hours.

drive headphone amps, he mentioned the ones made in Slovenia by Erzetich Audio, and Bakoon Products' HPA-21 (which Tyll used in the summer 2015 headphone-testing extravaganza he called Big Sound 2015¹)—but not much else. And none of the other portable DAC-headphone amps I had on hand used current drive.

Tyll told me an interesting story about the Bakoon. Because the frequency responses of headphones are voiced for voltage-drive amps, the sound of headphones like the

¹ See www.innerfidelity.com/category/big-sound-2015.

MEASUREMENTS

I measured the Apogee Groove with my Audio Precision SYS2722 system (see www.ap.com and the January 2008 "As We See It," <http://tinyurl.com/4ffpve4>). The source was USB from my 2012 MacBook Pro running on battery power. Macintosh's USB Prober utility reported the Groove's product string as "Groove" from "Apogee," and confirmed that its USB port operated in

the optimal isochronous asynchronous mode. Apple's AudioMIDI utility confirmed that the Groove operated at all sample rates from 44.1 through 192kHz with 24-bit integer data.

The Groove preserved absolute polarity (ie, was non-inverting) and with the volume control set to its maximum, the maximum output level was 5.05V, which is much higher than expected

from a device working on 5V USB bus power. Although Apogee describes the Groove's output impedance as variable and depending on the load, I measured a value of 21 ohms at all audio frequencies into loads ranging from 20 to 600 ohms. With 44.1kHz data, the Groove's impulse response (fig.1) revealed the DAC's reconstruction filter to be a conventional linear-phase, FIR type. Wideband spectral analysis of the Apogee's output as it decoded data representing 44.1kHz-sampled white noise at -4dBFS (fig.2, red and magenta traces¹) indicated that the reconstruction filter featured a steep rolloff above the Nyquist frequency (half the sample rate), reaching the stopband by 24kHz. As a result, the aliased image at 25kHz of a full-scale 19.1kHz tone (blue and cyan traces) was suppressed by more than 110dB. The distortion harmonics of this tone are also low in level.

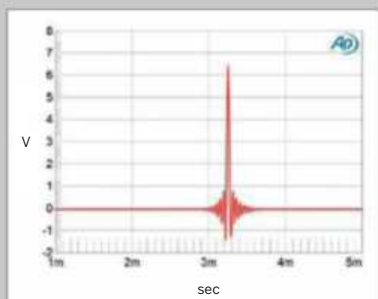


Fig.1 Apogee Groove, impulse response at 44.1kHz (4ms time window).

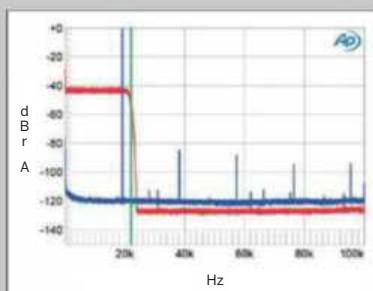


Fig.2 Apogee Groove, wideband spectrum of white noise at -4dBFS (left channel red, right magenta) and 19.1kHz tone at 0dBFS (left blue, right cyan), with data sampled at 44.1kHz (20dB/vertical div.).

¹ This test was suggested to me by Jürgen Reis, chief engineer of MBL.

Vandersteen Model Seven Mk II
REFERENCE SPEAKER, REDEFINED

THE BEST—*In Their Words*

the absolute sound™

BEST OF SHOW—Munich High-End 2015

BEST OF SHOW—T.H.E. Newport 2015

The **Audio Beat**

BEST OF SHOW—CES 2015

BEST OF SHOW—T.H.E. Newport 2015



VANDERSTEEN AUDIO vandersteen.com 559-582-0324 Made in the USA



Balanced From Source To Sound



M28 Monoblock Amplifier

M1 Digital to Analog Converter

Exclusive M28 Dealers

www.bricasti.com

Audio Revelation
San Diego/OC, CA

Barry's Live Sound
Chesterfield, MO

Sounds Real Audio
Bellingham, WA

Sound Consultant
Lacrosse, WI

Stereo by Design
Pompano Beach, FL

Sennheiser HD800s—which have a wildly varying impedance curve—changes quite a bit when mated with a current-drive amplifier. When his Big Sound 2015 panelists used the HD800s in a blind test that compared the current-drive Bakoon HPA-21 with a voltage-drive amp, they could easily tell the difference: The headphones sounded obviously warmer with the Bakoon. Comparing two voltage-drive amps with the Sennheisers, they could barely hear any differences at all.

Apogee gets around this problem with a unique circuit in the Groove that provides a variable output impedance, depending on the headphones connected to it. Apogee claims that this circuit can compensate for “frequency response induced impedance non-linearity in headphones” and can also “dynamically compensate” for other types of nonlinearities, be they acoustical, mechanical, or electrical. As a result, Apogee says you no longer need to worry about matching the Groove to different types of headphones and their wide range of impedances—and the problem of damping factor also goes away. Voilà—the benefits of current drive without the headaches.

The advantages of Constant Current Drive don't really benefit powered desktop speakers, which typically have a very constant impedance over their entire frequency range.

Current Covers

To test Apogee's claims, I listened to the Groove through a wide variety of headphones: Sennheiser Amperiors and HD600s (the latter's impedance curve is similar to that of the HD800s, which threw off the Bakoon); Ultimate Ears Triple.fi 10 in-ear monitors; my trusty Grado Labs HP 1s; NAD's Viso HP50 full-sized, circumaural 'phones; and AKG K240 studio 'phones. DAC-headphone amps included

AudioQuest's DragonFly, Aurender's Flow, Cambridge Audio's DacMagic XS (all three include ESS's Sabre chip), Audioengine's Model D3, and Meridian's Explorer. And to keep them all honest, once in a while I tossed in Chord Electronics' Hugo TT.

I picked three recordings of exceptional singers covering extraordinary songs, and began swapping headphones and DACs.

The Groove uses an eight-channel ESS Sabre 32-bit DAC chip in a Quad Sum design.

Happy Rhodes. Does anyone reading this know who she is? Anyone? Well, probably a couple of you—there's an indirect Peter Gabriel connection (Gabriel stalwarts Jerry Marotta and David Thorn have served as backing musicians on some Rhodes recordings). I searched the *Stereophile* website: not one mention, ever. It's one of the great mysteries of modern music why this singer-songwriter is not better known, for both her compositions and her expressive, four-octave range. She put out a string of admittedly uneven but mostly worthy albums in the 1980s and '90s before going back to her garden, somewhere in upstate New York. Poof, gone. Minimal touring, never left the country, but boy, when she was in the pocket, she created some great works.

Anyhow, I pulled up her cover of David Bowie's “Ashes to Ashes,” from *RhodeSongs* (CD, Aural Gratication AGCD-0021): just her guitar, some electric bass, and that voice, angelic and demonic in a single song. Guitar and bass are woven together so tightly in this arrangement that at first I had trouble determining if it was a synthesized bass

measurements, continued

Fig.3 shows the Groove's frequency response with data sampled at 44.1, 96, and 192kHz. The responses at the two lower rates follow the same gentle rolloff above 20kHz, with the expected sharp drop in output just below each Nyquist frequency. With 192kHz data, the rolloff steepens above 60kHz, reaching -3dB at 90kHz. Crosstalk between the channels was extremely low,

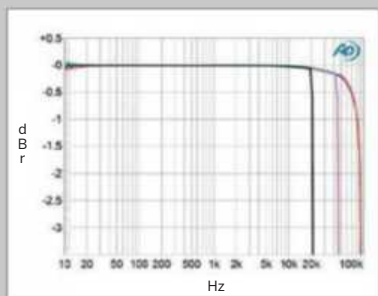


Fig.3 Apogee Groove, frequency response at -12dBFS into 100k ohms with data sampled at: 44.1kHz (left channel green, right gray), 96kHz (left cyan, right magenta), 192kHz (left blue, right red) (0.0dB/vertical div.).

at better than -100dB in both directions below 1.5kHz, though the usual capacitive coupling decreased the separation to 80dB at the top of the audioband.

The Apogee Groove performed extremely well with my usual test for resolution, which is to feed the DAC first dithered 16-bit data representing a 1kHz tone at -90dBFS, then 24-bit data representing the same signal. Fig.4 reveals that the increase in bit depth

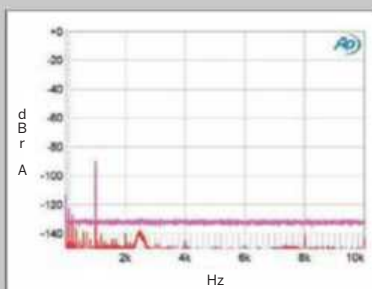


Fig.4 Apogee Groove, spectrum with noise and spuriae of dithered 1kHz tone at -90dBFS with: 16-bit data (left channel cyan, right magenta), 24-bit data (left blue, right red) (20dB/vertical div.).

drops the noise floor by 20dB, implying that the Groove has >19-bit resolution. With 24-bit data (blue and red traces), however, there is a small but nonetheless puzzling rise in noise centered on 2.5kHz. With undithered 16-bit data representing a tone at exactly -90.31dBFS (fig.5), the three voltage levels described by the data are very well defined, with excellent waveform symmetry and zero DC offset. With

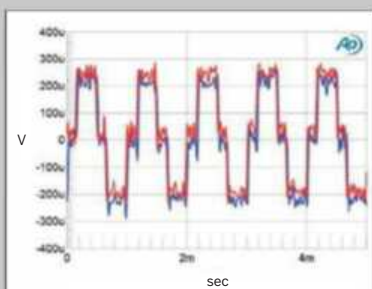
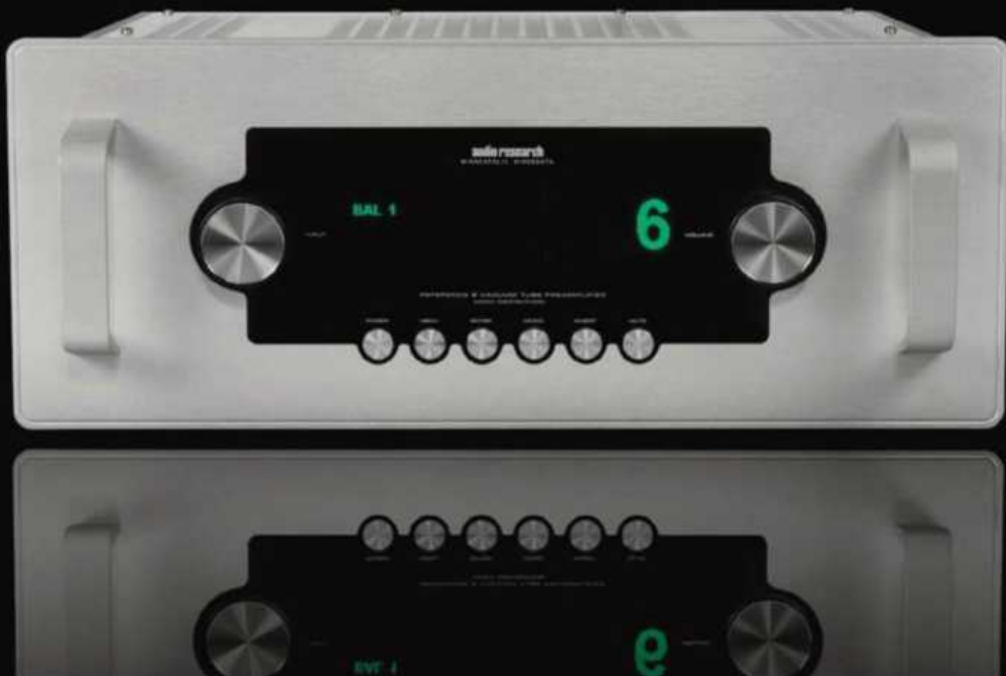


Fig.5 Apogee Groove, waveform of undithered 1kHz sine wave at -90.31dBFS, 16-bit data (left channel blue, right red).

Eliminate Background Music



The all-new **Reference 6** line stage preamplifier from Audio Research. Created to reveal more harmonic texture, dynamics, and air to put you in the middle of the performance.

From the inside out, every aspect has been redesigned with the highest quality components and proprietary parts to deliver an unparalleled musical adventure.

Experience your music in High Definition®.

THERE IS ONLY ONE REFERENCE®

www.audioresearch.com

or an actual four-string guitar. I settled on bass guitar, and noticed that the Groove made this easier to pick out, with the Sennheiser HD600s and NAD Visos, than through those same headphones with the AQ DragonFly or Audioengine DACs. The latter two sounded a little more closed-in, and lacked the Groove's dynamics. I made it a *trio* of tiny tots by adding to the mix Cambridge Audio's DacMagic XS DAC-headphone amp, which came closest to the Groove—but no cigar.

One thing *not* apparent was any change in the sound of the bass as I plugged the Sennheiser HD600s into the Groove, and then into the other DACs: The Groove passed the Tyll Hertsens-inspired Bakoon Test. I figured Apogee's Constant Current Drive must be working, keeping the voicing of headphones intact despite their swinging impedance curves.

I pivoted to the Aurender Flow,² which has an internal battery and therefore doesn't rely on USB power, and noticed just a bit more midrange dynamics and overall openness. But *all* of the headphones shone best through the Chord Hugo TT (also battery powered), which I raved about in the November 2015 issue.³ Control and dynamics popped up another notch, and each element of the mix was a tad easier to pick out. Not a fair fight—the Hugo TT costs \$4795 *vs* the Groove's \$295—but a great reality check.

I'd always thought of Christy Moore as Luka Bloom's older brother, and never really focused on his music until Philip O'Hanlon, of audio distributor On A Higher Note,



A view to a Groove:
inside the Apogee DAC.

plopped me down in front of his system one night and played

Moore's cover of Pink Floyd's "Shine On You Crazy Diamond," from his album *Listen* (CD, Sony BMG 88697480002). I ordered the disc straight away, and played it almost every day for a month. Moore's voice and his arrangement of this song are so perfect and touching that I find that Floyd's original—which I've always loved—now has a bona-fide equal.

The track begins with just Moore's voice, weathered and true. Then the acoustic instruments enter, one at a time, until, finally, the electric guitar solo takes us out. I've found that those first few bars can tell me plenty about a playback system. The sound is in-your-room, right there (a couple breath pops on the vocal mike were left intact), the mix revealing amazing depth and life.

Right off the bat, through the Sennheiser HD600s, the Groove revealed every detail of Moore's great voice, each breath and reverb tail clear to the end. More than with the other headphones, this combination made the microphone's own character abundantly obvious. With the DragonFly, Cambridge DacMagic, and Audioengine D3, I had to max the volume

to get a proper level, and when I did, the loss of detail and, again, the compressed dynamics were apparent. Those three were out. I moved on to the Meridian Explorer.

2 See www.stereophile.com/content/aurender-flow-da-headphone-amplifier.

3 See www.stereophile.com/content/chord-electronics-hugo-tt-da-headphone-amplifier.

measurements, continued

undithered 24-bit data (not shown), the Groove output a clean sinewave.

Measured into 300 ohms, the Apogee Groove exhibited very low levels of harmonic (fig.6) and intermodulation (fig.7) distortion. Note, however, that in fig.7 the small rise in noise floor at 2.5kHz can again be seen, with slightly greater rises centered on 6 and 27kHz, and another small rise at 8kHz. I have

no idea what caused this behavior or if it will have any effect on sound quality, though the small rise at 8kHz can also be seen in the spectral analysis of the DAC's output as it decoded 16-bit J-Test data (fig.8). However, the odd-order harmonics of the low-frequency, LSB-level squarewave are all at the correct levels (green line), and no other sidebands can be seen. With 24-bit

data, the result was essentially perfect (not shown), though the small rise in the noise floor at 8kHz is still evident.

Overall, the Apogee Groove offers superb measured performance, which is even more impressive when you consider that it costs less than \$300!

—John Atkinson

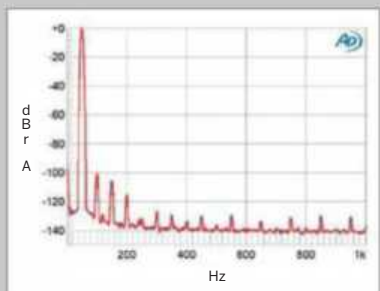


Fig.6 Apogee Groove, spectrum of 50Hz sinewave, DC–1kHz, at 0dBFS into 300 ohms (left channel blue, right red; linear frequency scale).

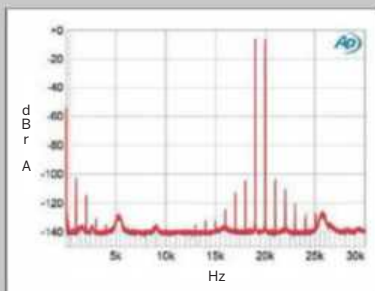


Fig.7 Apogee Groove, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 0dBFS into 300 ohms, 44.1kHz data (left channel blue, right red; linear frequency scale).

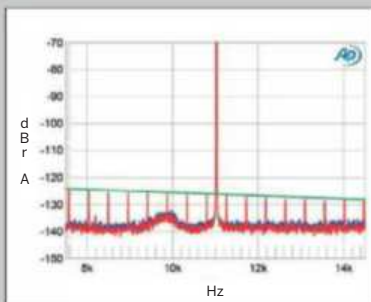


Fig.8 Apogee Groove, high-resolution jitter spectrum of analog output signal, 11.025kHz at –6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit data via USB (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, 43.5kHz.



FUJITSU TEN



You won't **believe** your ears.

'Regardless of volume setting, music played through this desktop system always sounded rich, big, and uncannily right'

Art Dudley, Stereophile April 2015

Visit a specialist audio retailer and hear it to believe it yourself.



TD-M1

'Nothing prepared me for what I experienced with Eclipse'

Jeff Jones, Grammy-awarded producer



On-gen Gold Prize
Summer 2015



HiVi Best Buy
Winter 2014



On a Higher Note

Tel: 949 544 1990

Email: stereophile@onahighernote.com

Hear for yourself. Find a dealer
eclipse-td.com/us

Again, with the 300–600 ohm Sennheiser HD600s and the Meridian Explorer, I had to max the volume with this track. A bit more delicate detail returned, but the dynamics still suffered, and there was a slight brightness on vocal peaks—which suggested that Apogee’s Constant Current Drive trickery might be paying off. The much-lower-impedance Grado HP1 and NAD Viso (35–38 ohms) headphones restored some volume to the Explorer, and the even-lower-impedance Sennheiser Amperiors (25 ohms) and Ultimate Ears (22 ohms) lit it up even more. In all cases, though, the Groove’s sound was more dynamic, rich, and detailed.

I brought the battery-powered Aurender back to the table. Predictably, it matched the Groove in volume and dynamics, again adding a very slightly bigger overall feel to “Shine On You Crazy Diamond.” Using only a USB connection to power a headphone amp clearly has its limitations, but the Groove came surprisingly close.

JitterBuggin’

By this point I was pretty sure how the DAC-headphone amps stacked up, but I wanted to try one more thing: the AudioQuest JitterBug.⁴

I’ve been a bit (or two) hard on the DragonFly compared to the Groove, but this JitterBug thing is something else entirely. It noticeably tightened up the details and the top end, and pushed

the Apogee into the Aurender’s orbit. A couple times at the beginning of Shawn Colvin’s version of Gerry Rafferty’s “Baker Street,” from her new album, *Uncovered* (CD, Fantasy 7237415), the acoustic guitarist snaps the strings à la Michael Hedges; with the JitterBug, the effect was more focused, and jumped dynamically out from the soundstage. Then the vocals and the rest of the band come in, and the space feels bigger and more natural. Who’d have thought?

Current Conclusion

What I’ve learned: Among the five pint-size, USB-powered DAC-headphone amps I had on hand, the Apogee Groove excelled at pushing high-impedance headphones like the Sennheiser HD600s, and just sounded better with anything I hooked up to it. Dynamics opened up, and details were more clearly defined. The Groove also benefited from being connected to the AudioQuest JitterBug (\$49)—that combination, still totaling only \$344, seems a no-brainer.

Even when powered by the less-than-ideal USB jack on a laptop computer, the Groove can take you into the realm of plug-in-the-wall DAC-headphone amps costing many times its price, while making it possible to use some of the trickier headphone models out there—no small feat. ■

4 See www.stereophile.com/content/audioquest-jitterbug-usb-noise-filter.

ASSOCIATED EQUIPMENT

Digital Sources Apple MacBook Pro computer (2.66GHz Intel Core 2 Duo, 8GB RAM, 512GB SSD) running OS 10.11, Amarra Computer Music Player, iTunes 12, JRiver Media Center 19, Reaper 4.78, Roon v.1.1 Build 65, VLC, XLD; Western Digital NAS Device (2TB); Oppo BDP-103 universal BD player; Meridian Sooloos Digital Media System (Control 15, QNAP TS-669 Pro NAS); Apple iPad Air, iPod Touch 1G, iPhone 6.

Digital Processors Audioengine D3, AudioQuest DragonFly USB DAC, Aurender AUR-V1000 (Flow), Cambridge Audio DacMagic XS, Chord Hugo TT, Meridian Explorer.

Preamplifier Marantz AV7005 in Pure Direct Mode.

Power Amplifiers Classé CAM 350 monoblocks (2).

Loudspeakers MartinLogan Prodigy & BalancedForce 212 subwoofers (2). Desktop & recording monitoring system: Emotiva 5, Velodyne Servo-F subwoofer.

Headphones AKG K240, Grado Labs HP 1, NAD Viso HP50, Sennheiser HD600 & Amperior, Ultimate Ears Triple.fi 10.

Cables USB: AudioQuest Victoria (for DragonFly) & Diamond, Cardas Clear. S/PDIF: AudioQuest HD6 Carbon (studio to main listening room), Cardas Neutral Reference, XLO. Line level: Kimber Kable (various), XLO HT Pro. Speaker: Kimber Kable BiFocal.

Power Dedicated 40A line for the amplifiers, separate dedicated 15A lines to digital & analog components.—Jon Iverson

ortofon
accuracy in sound
Xpression

ORTOFON INC

500 Executive Blvd Suite 102

Ossining, NY 10562

P: (914) 762-8646

F: (914) 762-8649

INFO@ORTOFON.US

WWW.ORTOFON.US

DIFFERENT CLASS

★★★★★



A49

A lifetime of electronics design expertise has led to Arcam's finest ever amplifier, the new A49 integrated amplifier. Its ultra-refined class G topology* represents the pinnacle of Arcam's engineering heritage and sets new standards of performance. An audition will confirm that power is nothing without control.

ARCAM

G Arcam's G class amplification provides the perfect balance of ultra low distortion and enormous power. You can read all about this world class technology by visiting our website.

www.arcam.co.uk

BRINGING MUSIC AND MOVIES TO LIFE



**THE SOUND ORGANISATION IS
THE EXCLUSIVE US DISTRIBUTOR OF**
Arcam • Chord Company • DALI • Melco •
ProAc • Quadraspire • Rega • Wilson Benesch

www.soundorg.com
facebook.com/TheSoundOrganisation
972-234-0182
info@soundorg.com

FRED KAPLAN

Balanced Audio Technology Rex II

LINE-STAGE PREAMPLIFIER



Rex II line preamplifier (\$25,000), and it has stirred Proustian memories of that day in Napa, though on a multisensual and financially forbidding level. I can afford the Rex II even less than I could afford cases of \$50 bottles of wine way back when—but it was such a pleasure to drink

A quarter-century ago, when we were just getting into wine, my wife and I took a trip to Napa Valley. At one premium vineyard, we took a taste from the \$20 bottle, then, for the hell of it, a taste from the \$50 bottle. The first taste was nice; the second was alarming—an explosion of flavors, a gateway to sensory delights that we hadn't known could be had from a barrel of crushed grapes. We wobbled away, concerned that high-end wine might be a dangerous hobby.

I'm beginning to think the same thing about five-figure line-stage preamplifiers.

Early in 2015, I reviewed Simaudio's Moon Evolution 740P line preamp (\$10,000), and grew so enamored of its pleasures that I bought the thing.¹ Since late summer, I've been listening to Balanced Audio Technology's

it in, to grasp a rung closer to the limits of what's possible.

Description and Design

In 1995, when Steve Bednarski, Victor Khomenko, and Geoff Poor started their high-end company, they called it Balanced Audio Technology because the circuits of their

¹ See my review in the May 2015 issue: www.stereophile.com/content/simaudio-moon-evolution-740p-line-preamplifier.



SPECIFICATIONS

Description Remote-controlled, dual-mono, two-chassis, tubed line preamplifier. Tube complements: eight 6H30 SuperTubes (control module); two 5AR4, four 6C19, plus user-selectable choice of two 6H30 or two 6C45 shunt voltage-regulator tubes (power module). Analog inputs: 5 balanced

(XLR). Analog outputs: 2 main, 1 tape (all XLR). Gain: 18dB. Frequency range: 2Hz–200kHz. Noise: –100dB. Input impedance: 100k ohms (minimum). Output impedance: 200 ohms. Power consumption: 220VA (control module), 250VA (power module).

Dimensions Each mod-

ule: 19" (490mm) W by 5.75" (150mm) H by 15.5" (400mm) D. Weights: 40 lbs (18.2kg), control module; 36 lbs (16.4kg), power module.

Finish Black on Silver, Black on Black.

Serial number of units reviewed RCM070282 (both chassis).

Price \$25,000. Approximate

number of dealers: 12. Warranty: 5 years to original owner, 1 year on tubes.

Manufacturer Balanced Audio Technology, 1300 First State Boulevard, Suite A, Wilmington, DE 19804. Tel: (800) 255-4228, (302) 999-8855. Fax: (302) 999-8818. Web: www.balanced.com.

AXIOS

HEADPHONE CABLE

ARE YOUR HEADPHONES WORTHY?
www.kimber.com/axios



Listen to an AXIOS cable at
CES in Venetian suite 30-311



ph: 801-621-5530 • fax: 801-627-6980 • www.kimber.com

first products, the VK-5 line preamp and VK-60 power amp, were balanced throughout. So it has been ever since. The BAT Rex II has five inputs and three outputs, all balanced. (Balanced Audio Technology sent me some RCA-to-XLR adapters, which fit snugly and worked well with my unbalanced Nagra phono preamp.²)

There's an array of consumer-friendly conveniences. The preamp's *programming mode* allows you to adjust the channel balance (to counter any left/right asymmetries in sound, whether caused by your system or your room) and set the volume to a fixed level (so that the Rex II can be bypassed in a home-theater system). With the push of a button on the front panel or the remote control, you can switch from stereo to mono, mute the volume, or invert absolute phase (the last a rare but useful feature, as many recordings unwittingly do just that).

But like the cliché about true beauty, the Rex II's distinctions shine from within. Victor Khomenko believes in power. He likes to say that eight cylinders drive a car better than four cylinders, a strong man lifts more objects (light or heavy) than a weakling, and 18 vacuum tubes push a preamp's circuits more effortlessly than some smaller number. Eighteen tubes require a lot of space, so the Rex II spreads its functions across two boxes: a 40-lb control module and a 36-lb power module, connected to each other by two detachable umbilical cords (one per channel); each box has its own power cord. Most designers of dual-chassis preamps put the controls and gain stage in one box, the power supply in the other. Khomenko doesn't like that approach, observing that it elevates impedance and restricts the power of the gain stage. The Rex II contains power supplies—two large toroidal transformers, for true dual-mono

configuration—in *each* of its two boxes, one supply mirroring the polarity of the other. The control module contains the complete power supply for positive polarity; the power module has everything needed to juice negative polarity.

The control module, which contains a single gain stage with no global feedback, is powered by eight high-current, low-impedance 6H30 dual-triode tubes, which BAT's website calls SuperTubes, claiming that those eight 6H30s deliver the same current as 32 conventional 6922 tubes. The power module contains 10 tubes: two 5AR4 rectifiers, two 6C19 triodes per channel for the current source, and, in the AC shunt voltage regulator, one pair each of 6C45s

Balanced Audio Technology's Rex II line preamplifier has stirred Proustian memories.

and 6H30s. With a toggle switch, you can select between the latter pairs (more about that later), which means that the power module actually contains only 8 (not 10) *working* tubes, and the preamp overall 16 (not 18).

In any case, with all those tubes, these boxes run hot. The owner's manual recommends leaving at least 6" of space above each module; they are *not* to be stacked. Khomenko also suggests that, after the modules break in (it takes about two weeks), you should turn them off when not using them. (Another reason to do so: together, the two boxes consume about 350W.) I found that, even after being powered down

² A Balanced Audio Technology representative informed me that the company no longer makes the adapters that were included with Fred Kaplan's review sample.
—Art Dudley

MEASUREMENTS

I measured the Balanced Audio Technology Rex II's electrical performance with my Audio Precision SYS2722 system (see the January 2008 "As We See It," <http://tinyurl.com/4ffpve4>) with the 6C45 AC shunt-regulator tubes. BAT warns in the Rex II's manual not to stack the two chassis; the supplied umbilical cables were just long enough for me to put the power chassis on the floor and the control chassis on my test bench. One thing that should also be noted by prospective purchasers is that both of the Rex II's chassis need plenty of ventilation. After a few hours' running, the top panel of the control chassis was hot, measuring 113.2°F (45.1°C).

All the testing was done in balanced mode, ie, balanced input to balanced output. The maximum gain (with the volume control set to "140") was 20.3dB, with the unity gain setting "103." The preamp preserved absolute polarity, ie, was non-inverting, with the front-panel pushbutton set to Normal, and the input impedance

was very high, at >500k ohms at low and middle frequencies and still 360k ohms at the top of the audio band. The output impedance, specified as 200 ohms, measured around 700 ohms at 20Hz and 1kHz at full volume, rising to 1770 ohms at 20kHz. With the volume control at "103", the impedance was 700 ohms across the band.

With the volume control set to its maximum, the ultrasonic frequency

responses into a high-impedance load differed between the channels. The blue trace in fig.1 shows that the left channel starts to roll off above 10kHz, reaching -1.6dB at 20kHz and -6dB at 58kHz. By contrast, the right channel (red trace) was down by just 0.5dB at 20kHz and -6dB at 90kHz. Into 600 ohms (cyan and magenta traces), the increasing output impedance at high frequencies means that both chan-

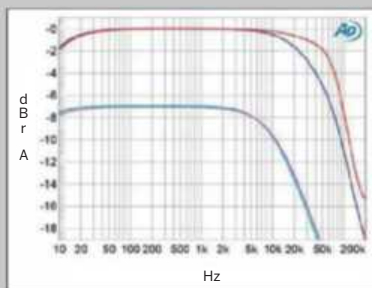


Fig.1 BAT Rex II, balanced frequency response with volume control set to maximum gain at 1V, into: 100k ohms (left channel blue, right red), 600 ohms (left cyan, right magenta) (2dB/vertical div.).

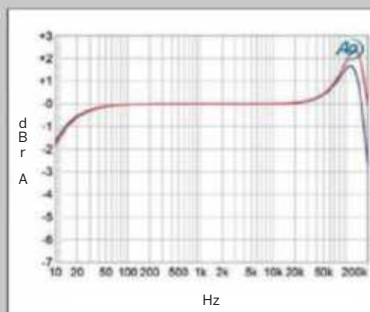


Fig.2 BAT Rex II, balanced frequency response with volume control set to unity gain at 1V, into 100k ohms (left channel blue, right red), (1dB/vertical div.).

WORLD CLASS

TEATRO

"I find that the Teatro is a true high-end product with near state of the art performance...this cartridge, possibly due to the complex shape of the titanium body, has the quietest backgrounds that this listener has ever not heard."

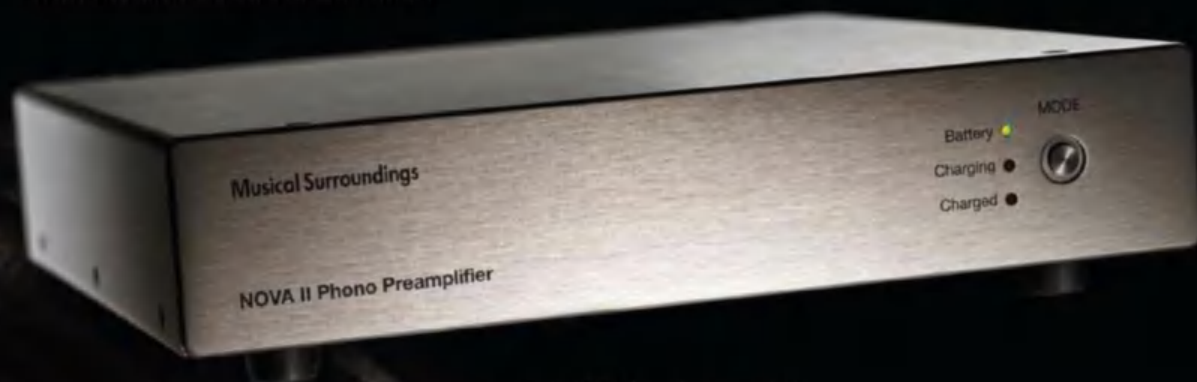
- Jerry Seigel | www.10Audio.com | July 2015



ANALOG MANUFAKTUR GERMANY

"Like the Teatro cartridge, the Nova II's background noise is extremely low...the Nova II is a very musical phono preamplifier... it is a bargain at the asking price."

- Jerry Seigel | www.10Audio.com | July 2015



NOVA II

"The first impression...was just how quiet this was...provides top quality sound...one of the best phono amps in the price range that I've ever heard."

- Paul Rigby | HIFI World UK | August 2015

Visit us at CES 2016
Suite 30-139 at the Venetian



MUSICAL SURROUNDINGS

MUSICAL SURROUNDINGS | 510.547.5006 | musicalsurrroundings.com

for several days, they delivered fully-warmed-up performance after half an hour of power—and sounded very close to that after just a few minutes. This was true whether I'd turned the preamp all the way off or switched it to Standby mode, which keeps the tubes' filaments on but withholds operating voltages from their anodes.

So far, nothing I've written in this section is new. Before the Rex II, there was the Rex, which Michael Fremer reviewed in the February 2008 issue,³ and which had all the features described above. And BAT first used—and thus introduced to the domestic audio industry at large—the Russian 6H30 SuperTube in their VK-50 SE preamp, way back in 1999.

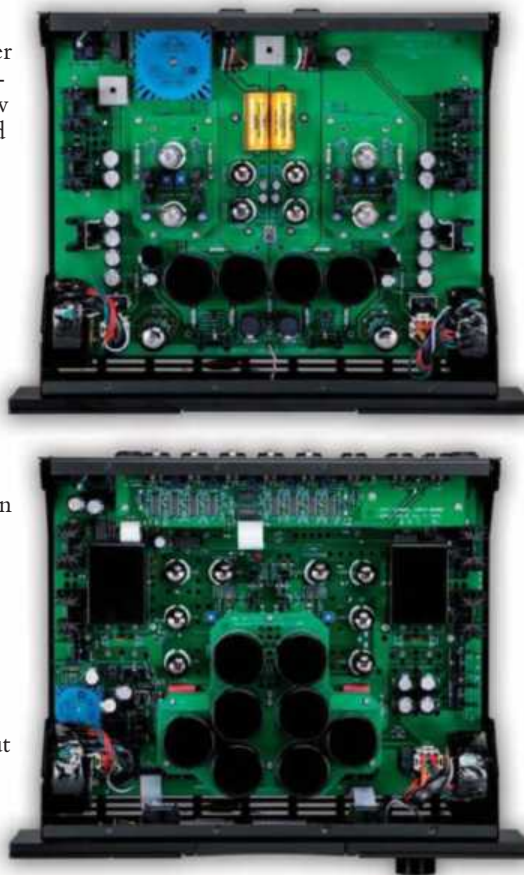
Only one new feature distinguishes the Rex II from the Rex: the control module's output stage. In the Rex, the signal was capacitor-coupled to the preamp's output jacks, via BAT's Six-Pak of capacitors; in the Rex II, the output signal is transformer-coupled. The gain stage in most preamps oper-

ates at low current; the Rex II's can operate at very high current because of this transformer, which is large and heavily shielded from stray magnetic interference from the nearby power transformers. The Rex II's output transformer, called the T-Rex, was custom-built by a Swedish company and features amorphous-core design. Khomenko claims that replacing capacitors with a transformer—with *this* transformer, anyway—has two effects: It enhances the preamp's ability to drive low-impedance loads; and, for any load, it improves dynamics, transparency, top-to-bottom coherence, and, as BAT's website puts it, "the organic portrayal of music."

Not having an original Rex for comparisons, I couldn't verify this claim. To paraphrase Donald Rumsfeld, a reviewer goes to the listening chair with the preamp that he or she has.

Setup

I played LPs on a VPI Classic



Each Rex II chassis has a power supply.

3 See www.stereophile.com/tubepreamps/208bat/index.html.

measurements, continued

nels roll off prematurely. Users are not going to operate the Rex II with its volume control set to its maximum, so I repeated the high-impedance measurement with the preamp set to unity gain. The result is shown in fig.2, plotted with greater vertical resolution than fig.1. The audio-band response is now perfectly flat from 40Hz to 30kHz with excellent matching between the channels. However, a small rise in the preamp's ultrasonic output can be seen

centered on 110kHz.

Channel separation at 1kHz was good, at 82dB R-L and 90dB L-R, though it worsened to 72dB, R-L, and 77dB, L-R, at 20kHz. The unweighted, wideband S/N ratio, ref.1V and measured with the input shorted to ground but the volume control set to "140," was 58.7dB (average of both channels). This ratio improved to 74.9dB when the measurement was restricted to the audio band, and 78.7dB when

A-weighted. Unusually, the S/N ratio didn't improve significantly at lower settings of the volume control. Fig.3 shows that there are some low-level AC supply spurious present, but that the primary noise contributor is random.

Plotting the THD+N percentage against output voltage into 100k ohms (fig.4) reveals that the distortion starts to rise above the noise floor between 2V and 3V, suggesting a sensibly ar-

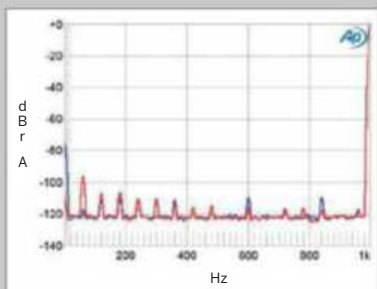


Fig.3 BAT Rex II, balanced input signal, spectrum of 1kHz sine wave, DC-1kHz, at 1V into 100k ohms (left channel blue, right red; linear frequency scale).

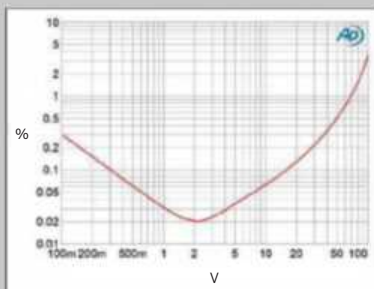


Fig.4 BAT Rex II, balanced input signal, distortion (%) vs 1kHz output voltage into 100k ohms.

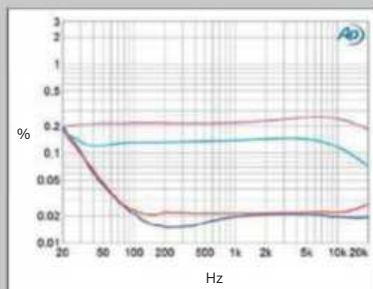


Fig.5 BAT Rex II, balanced input signal, distortion (%) vs frequency at 3V into: 100k ohms (left channel blue, right red), 600 ohms (left cyan, right magenta).



Contour S 1.4 LE

The legend continues.

Dynaudio Contour – a magic name among audiophiles. And the living example of a true high-end loudspeaker. Consistently refined and further optimized since its launch in 1986 to this very day. Completely handmade in Denmark, the new Contour S 1.4 and S 3.4 Limited Edition models offer absolute refinement in design and finish, combined with a higher level of sound quality that is instantly audible. The legend continues. www.dynaudio.com/contour



All there is. **DYNAUDIO**

turntable with an Ortofon Cadenza Blue cartridge mounted in VPI's JMW Memorial tonearm, connected to my Nagra BPS battery-powered phono preamp. I spun silver discs in a Krell Cipher SACD/CD player. All signals went through a Simaudio Moon Evolution 860A power amp into a pair of Revel Ultima Studio2 speakers.

At first, I strung all the components together with Nirvana interconnects and speaker cables, as usual. Then Geoffrey Poor, BAT's marketing director, suggested that the Rex II's transparency might be better illuminated by Nordost cables. Nordost kindly lent me a set of Frey 2 speaker cables and interconnects, which changed the sound considerably. To check whether this change was due to the cables, the preamp, or some interaction between the two, I borrowed from *Stereophile's* editor, John Atkinson, some AudioQuest Wild Blue and Kubala-Sosna Elation! interconnects. As recounted below, each swap-out of wire made a difference, in some cases a significant one. After I'd found the best mix of cables, I switched back to my Simaudio Moon Evolution 740P line preamp, then to the Rex II, to parse which overall improvements were due to the cables and which to the BAT.

Finally, toward the end of the listening period, I opened up the Rex II's power module and, with the flick of a switch, changed the shunt voltage-regulator tubes from the default pair of 6C45s to the alternative 6H30s. (Not to spoil surprises, but after listening to a couple of songs, I swiftly switched back.)

Sound

It took me a while to figure out just what the Rex II sounded like—what it brought to the show on its own, as distinct

from how it affected, or was affected by, the associated components, especially the cables. (This is always a puzzle, to some degree.) I began with my Nirvana interconnects and speaker cables, and, after playing music for a couple weeks, began listening closely to the BAT. It sounded wonderful (details to follow), except for two things: a darkness in the lower midrange that, curiously, didn't much affect the translucence of higher frequencies, and a slight tubbiness in the bass. Did the Rex II need to break in a while longer? Was something else in my system at fault?

The highs were luminous, the lowest bass notes deep and tuneful.

This was when, unprompted by me (unless something is dreadfully amiss, during the reviewing process I keep mum about what I'm hearing), BAT's Geoff Poor suggested the switch to Nordost wire. One connection at a time, I swapped out my Nirvanas for Nordost Frey 2s, listened, then swapped out more. With each day of playing music, the darkness had lightened and the bass had tightened (a sign that more break-in time had indeed been needed). But with each replacement of Nirvana wire with Nordost, the upper midrange and highs, though sounding steadily clear and transparent (Poor had been right about that), also sounded more bright, edgy, and thin.

Not knowing which pieces of wire or electronics were causing what, I borrowed the AudioQuest and Kubala-Sosna cables from JA. I then spent a couple of evenings connecting

measurements, continued

ranged gain architecture. However, that distortion is low, at 0.02%, and rises gently with voltage. We define clipping as when there is 1% THD+N present, and into this high impedance, the Rex II doesn't clip at 1kHz until the output is an extraordinary 70V! Even into 600 ohms, the Rex II doesn't clip until 10V (not shown).

Fig.5 shows how the THD+N varies with frequency at a level, 3V, where I could be sure I was looking at actual distortion rather than noise. The left channel (blue trace) has slightly lower

distortion that the right channel (red) between 100Hz and 1kHz, but both channels feature increasing distortion below 100Hz, presumably due to the onset of core saturation in the output transformers. The cyan and magenta traces in this graph confirm that this preamplifier should not be used into pathologically low impedances. It will work well with power amplifiers having an input impedance of 10k ohms or greater.

At low frequencies and a moderate output level into 100k ohms, the distortion

signature is primarily the third harmonic, then the second harmonic (fig.6). Increasing the signal frequency to 1kHz (fig.7) virtually eliminates the third harmonic and reduces the level of the second harmonic by a factor of 10, from -73dB to -94dB (0.002%). Intermodulation distortion (fig.8) is also very low.

Overall, the measured performance of the BAT Rex II is excellent, though dominated by the characteristics of the T-Rex output transformers.

—John Atkinson

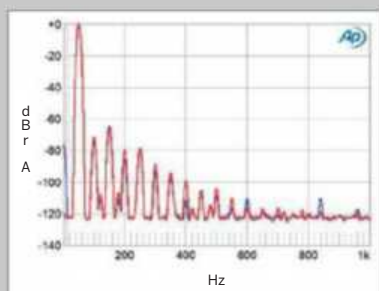


Fig.6 BAT Rex II, balanced input signal, spectrum of 50Hz sine wave, DC-1kHz, at 1V into 100k ohms (left channel blue, right red; linear frequency scale).

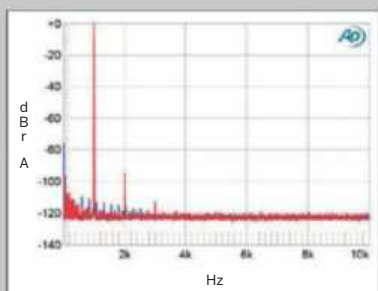


Fig.7 BAT Rex II, balanced input signal, spectrum of 1kHz sine wave, DC-10kHz, at 1V into 100k ohms (left channel blue, right red; linear frequency scale).

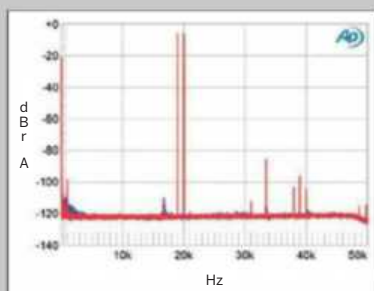


Fig.8 BAT Rex II, balanced input signal, HF intermodulation spectrum, DC-50kHz, 19+20kHz at 1V into 100k ohms (left channel blue, right red; linear frequency scale).



**Blue Velvet PHT Type I shown on cartridge*

PHT GROWN IN CALIFORNIA LEGAL IN ALL 50-STATES!

**Transform your
phono cartridge with PHT
Guaranteed Or your money back!**



\$125 each or \$199 for both strains!

- Latest evolution of our award winning UEF Technology
- Transforms phono SQ- just place on or near phono cartridge
- Improves clarity, lowers noise floor, increases sound staging
- Comes in 2 different strains w 2 distinct sonic perspectives
- Type S PHTs are all about clarity and musicality
- Type I PHTs sound holographic and ethereal
- A new crop of PHTs will be released every 90-days
- No-risk 30-day money back guarantee



SYNERGISTIC RESEARCH

NEVER COMPROMISE • SYNERGISTICRESEARCH.COM



and disconnecting all four brands of cable on hand (such a glamorous life!), and settled on the following configuration: Nordost from turntable to phono preamp and from phono preamp to Rex II; Kubala-Sosna from CD player to Rex II; AudioQuest from Rex II to power amp; Nirvanas from power amp to speakers. This combo produced the best sound that I could eke from my system under the circumstances—and what a sound! That line I lifted from BAT's website about "the organic portrayal of music"? That was putting things mildly.

I listened to some great vocal albums: Ella Fitzgerald and Louis Armstrong's *Ella & Louis* (2 45rpm LPs, Verve/Analogue Productions AP-4033), Paul Simon's *Hearts and Bones* (LP, Warner Bros. 23946-1), Stevie Wonder's *Original Musiquarium I* (LP, Tamla 6002 TL2), and Lorraine Hunt Lieberson's disc of J.S. Bach's Cantatas BWV 82 and 199, with Craig Smith conducting the Orchestra of Emmanuel Music (CD, Nonesuch 79692-2). The singers beamed from the soundstage with a matter-of-fact, lifelike presence that I'd never heard from my system. I've written similar observations in other reviews; such is the embarrassment that comes with scaling ever-higher cliffs. (I try to convince my friends back on the ground: "No, I mean it—this view is *really* spectacular!") But the Rex II captured these singers' subtlest accents and modulations, their full-throated crescendos, their most softly whispered asides. It was spooky-palpable.

In real life, when a vocalist sings louder, a horn player blows harder, or a pianist steps on the sustain pedal, the decibels don't just rise—the soundwaves expand. The Rex II took me closer to that sensation than I'd ever felt from a recording in my living room.

The Rex II effortlessly unraveled harmonic details. At one point in "Hat and Beard," from Eric Dolphy's *Out to Lunch* (2 45rpm LPs, Blue Note/Music Matters Jazz 84161), Dolphy's bass clarinet and Richard Davis's double bass are played in unison. With many systems—even some very good ones—it takes some wincing concentration to distinguish the two, tonally and spatially. Through the Rex II, the players were instantly distinct—not as stick figures against a flat background, but rather as two 3D musicians playing together in the same room. Ditto for Dave Douglas's trumpet and Mark Feldman's violin in the title track of Douglas's *Charms of the Night Sky* (CD, Winter & Winter 910 015-2), another good test of a system's resolving powers (as well as a great, moody jazz album).

Listening to "Amelia," from Joni Mitchell's *Hejira* (LP, Asylum/Rhino R1 01087), not only did I hear new subtleties in her vocal phrasing, but the guitars and percussion all around and behind her (*way* behind her) pierced through with jolting vividness. I'd heard these sounds before, of course, but they'd never popped so distinctly from such tangible spaces on such a cohesive soundstage. This may be engineer Henry Lewy's best-sounding recording, and Rhino's vinyl reissue removes the compression that slightly

The power module (left) has connectors for the supplies to the control module (right), which carries the audio circuitry.

With all those tubes, these boxes run hot.

marred the original.

In Maria Schneider's *The Thompson Fields* (CD, ArtistShare AS-0137), the great jazz-orchestra composer's finest work to date, the trumpets in the back row sounded as lifelike as the flutes and saxes in the front. The effect wasn't a nice, melded brass sound, but—even when they played softly—a row of musicians *blowing* their horns, their distinctive tones and colors mixing as an ensemble. Frank Kimbrough's piano projected just the right blend of percussive hammer and harmonic warmth. In the gorgeous opening track, "Walking by Flashlight," Scott Robinson's phrasing on alto clarinet expressed more subtle emotions than I'd heard before; it sounded more like he sounds in a live club—where I've heard him, and this band, many times. When Gary Versace squeezed the high notes from his accordion, they sounded glorious, pure and airy.

These revelations of detail extended to musical rhythm. I've listened to Miles Davis's *Kind of Blue* countless times, but a minute into the opening track, "So What," especially on Classic Records' 45rpm reissue (4 single-sided LPs, Columbia/Classic CS 8163), drummer Jimmy Cobb tapped his cymbal—at this point, still very quietly—with a slight *oomph* on the second and fourth beats of each bar that I'd never fully appreciated before. I'm not raving about some audiophile version of counting angels on the head of a pin; I'm talking about details that unveil more of the music's *core*—and more of the musicians mining that core.

While we're on *Kind of Blue*, I should add that I could also follow the pluck and thump of bassist Paul Chambers' every note, some of which plumb almost inaudibly deep on many systems, that the elements of pianist Bill Evans's tight chords emerged more clearly than I'd heard before, and that John Coltrane's tenor sax was blowing from way to the left of the left speaker (as it should be).

Finally, the Rex II displayed vast dynamic headroom. This is the sort of thing usually boasted by power amps, not preamps; perhaps it's all those toroidal transformers? No matter how loud an orchestral passage swelled, I never heard any distortion; the instruments, or at least the instrument sections, retained their distinct characters and colors.

My only caveat about the Rex II: The darkness I'd heard in the lower midrange at the start of my listening never completely lifted. But unlike with some electronics that display a trace of darkness, it didn't infect the rest of the audioband: the highs were luminous, the lowest bass notes deep and tuneful. Was I hearing inherent characteristics of tubes, artifacts produced by some other component in my system that the Rex II was revealing more ruthlessly than other preamps, or a reflection of the designers' taste?

experience **super fast** audio



Spectral DMC-30SV **"Super Veloce"** Reference Preamplifier

After years of extensive research into semiconductor "thermal memory" distortions in audio signals and the development of exclusive ultra-high-speed transistors, the **Spectral DMC-30SV "Super Veloce" Reference Preamplifier** sets a new benchmark in signal control and amplification. **The result is a startling increase in musical realism.**

Innovative Audio Video Showrooms has just completed a comprehensive renovation, creating a world-class venue in which to audition the very finest music systems.

Visit **Innovative** to experience **"Super Veloce"**.

INNOVATIVE
reference music systems

150 East 58th, Street Level, NYC +1.212.634.4444
innovativeaudiovideo.com info@iavny.com

I don't know. If an audio component has a coloration (and most do), *this* coloration—a slightly dark, too-warm lower midrange, with stratospheric frequency extension and transparency elsewhere—is the coloration I like best. But others might find it a little ripe.

Toward the end of my listening, I got out an Allen wrench, removed the 16 hex screws holding the lid of the Rex II's power module in place, and flicked the switch that turns off the pair of 6C45 AC shunt-regulator tubes and turns on the 6H30s. In his review of the original version of the BAT—which he otherwise liked—Michael Fremer wrote that when he activated the 6H30s, “the Rex sounded ‘tube-like’ in the clichéd sense of the word: . . . somewhat soft overall, sluggish and thick in the bass,” with a soundstage that was “narrowed and squeezed forward.” I heard the same effects. When I played Maria Schneider's *The Thompson Fields*, Scott Robinson's clarinet still sounded pretty, but his subtle phrasing was now muffled, and the horns melded together as a homogeneous color with little sense of distinct blowing or tonal variation. I don't like the idea of letting consumers pick their flavor. (As Stephen Colbert's cranky character barked on his old Comedy Central show, “Pick a side, dammit!”) But even conceding the merits of having some flexibility, I can't imagine anyone preferring the 6H30s' sound. Nor is it likely that anyone who can lay down \$25,000 for a line preamp would own a system so bright and etch-y that it would need such massive mellowing.

Conclusion

While I'm in attack mode, I should say that the Rex II's owner's manual needs a rewrite: the all-too-few diagrams

ASSOCIATED EQUIPMENT

Analog Source VPI Classic turntable with JMW tonearm, Ortofon Cadenza Blue cartridge.

Digital Source Krell Cipher SACD/CD player.

Preamplification Nagra BPS phono preamplifier (battery-powered), Simaudio Moon Evolution 740P line-stage preamplifier.

Power Amplifier Simaudio Moon Evolution 860A.

Loudspeakers Revel Ultima Studio2.

Cables Interconnect: Nordost Frey 2, AudioQuest Wild Blue, Kubala-Sosna Elation!, Nirvana S-L. Speaker: Nordost Frey 2, Nirvana S-X. AC: Manufacturer's own.

Accessories Audiodesksysteme Gläss Vinyl Cleaner, LAST stylus cleaners, AC power from dedicated 20A circuits.

—Fred Kaplan

and photos are unlabeled, and some of the text's claims (eg, that the Rex II has a slot for an optional phono card) are wrong. Finally, the two boxes are pug-ugly: plain, black, bluntly rectangular, with no design flair. Even the buttons on the faceplate are too dark to read without a flashlight—which heightens the need for diagrams in the manual. At least the palm-size remote control is clearly marked.

But these are minor qualms. The Balanced Audio Technology Rex II is a wonder that has eked from my LPs and CDs more new things than any other component I've sampled in years—and not in a cold, analytical way, but with the full, coherent soul of music intact. ■

Harbeth

LOUDSPEAKERS

Many are called....
[very] few are chosen
for Product of the Year



// ... so easy, beautiful, and effortlessly
natural is the reproduction. //

Paul Seydor – *The Absoute Sound*



This new-generation Harbeth is my tribute to the BBC engineers who dreamed of audio perfection. They lacked the technology to make it happen; we've just achieved it.

Alan A Shaw, designer







Contact: fidelisav.com 603-880-4434

The multi award-winning Super HL5plus
opens a window into your music.





Made in England



T.H.E. SHOW NEWPORT

*The Home Entertainment
Show Newport Beach*

T.H.E. Show Newport is a **weekend of fun** & entertainment for music & audio enthusiasts. **400+ Audio manufacturers** from around the world come to showcase their ultra high-end equipment. Hear a variety of sounds from the \$500,000 stereo setup to the \$500 headphones.

When you're ready for a bite, chow down on **LA's premier food trucks** & enjoy the **live musical performances** and the **luxury automotive show**.

T.H.E. HEADPHONIUM

GREAT FOR INDUSTRY & CONSUMERS!

JUNE 3rd - 5th, 2016

Hotel Irvine, Irvine CA

Preview Day on June 2nd by Invitation Only

To reserve exhibit space, buy tickets, reserve sleeping rooms, and find additional info, visit:
www.theshownewport.com



AN IDEAL BORN OF PASSION



**TRIANGLE
ART**
Artisan Crafted Analogue

TriangleART is the manufacturer of the high-end turntable analog play-back system, **Reference SE**.

This hand-produced turntable is designed and developed out of long years of experiment and an ideal born of passion.

KATLI AUDIO TriangleART Distributor, USA | 13908 Ravenwood Dr. | Chino Hills, CA 91709 | 909.465.0222 | katli.com | triangleart.net



Award winning dream combo

Experience the full GamuT at CES, room 29-324

GamuT RS7 3 way speaker

"The GamuT RS7 is indeed a superior-sounding, superbly finished loudspeaker capable of offering clean, grain-free, uncolored, full range sound of wide dynamic range. It also offers exceptional clarity in the lower midrange and bass..."

John Atkinson, Stereophile, Sep 2015

Dynamic - energetic - alive

GamuT®

Handcrafted in Denmark

GamuT M250i mono amps

"One of the very few amplifiers I have ever heard that can combine world-class power delivery and dynamic clout with all the subtlety, expressiveness and pace that one could possibly desire. Now if that's not audio magic of the first rank, then I can't imagine what else would be. Passionately recommended."

Chris Martens, HiFi+, Oct 2015



www.gamutaudio.com

facebook.com/gamutaudio

usa@gamutaudio.com

888-252-249

Unexpected wireless performance:
just what you'd expect from MartinLogan



The MartinLogan Wireless Ensemble



Count on MartinLogan to set the bar higher. Like giving a luxury 5-channel soundbar the ability to stream wireless audio over your Wi-Fi network. DTS Play-Fi® technology streams high-resolution audio to the new Motion Vision X Soundbar, or to any of MartinLogan's new wireless ensemble. Build a whole-home wireless audio system, with easy app control for Android, iOS, Kindle Fire or PC devices. Finally, wireless products with MartinLogan performance.



FOLLOW-UP BY ART DUDLEY

THIS ISSUE: New accessories for washing old records.

AUDIODESKSYSTEME GLÄSS VINYL CLEANER

In his "Music in the Round" column on p.45 of this issue, Kal Robinson nails it: "An *accessory* is something without which your system would still work just fine." Thus, unless you're one of those Neanderthals who assign to audio cables¹ that rather dubious distinction, there isn't a single audio accessory on the planet that anyone actually needs.²

But because most of my listening is to LPs, I find that a reliably good record-cleaning machine comes closer than any other accessory to being essential to my full enjoyment of music—not to mention the preservation of my record collection.

I didn't feel quite so strongly on the matter until I experienced the German-made Audiodesk-systeme Gläss Vinyl Cleaner (\$3995),³ a fully automated, wet-wash/blow-dry machine that uses ultrasonic cavitation to remove contaminants from even the most minute record-groove modulation.⁴ Despite my earlier, positive experiences with other cleaning machines, it was the Vinyl Cleaner that put the *reliably* in *reliably good*.

Indeed, in the months since I purchased my review sample of the Vinyl Cleaner, examples of its Almost Essential status continue to accumulate. The latest was my newly acquired copy of a 1960s reissue of Ornette Coleman's 1959 album *Tomorrow Is the Question* (Contemporary S7569). During a recent visit to the Jazz Record Center, on W. 26th Street in Manhattan, my friend Ken Micallef recommended the album as a good starting place for a Coleman newbie. I brought it home, and was so immediately taken with the music that I listened to it twice through. This copy sounded great—JRC doesn't sell junk—with only a few minor clicks: nothing to detract from a record, the (stereo) sound of which was perhaps an 8 on a scale of 10. I was happy!

Then I thought: What the heck, I might as well wash my new record, as long as my \$4000 record-cleaning machine isn't busy with anything else at the moment. (I assume this is what goes through Ralph Lauren's mind when he decides to drive one of his Ferraris to the 7-Eleven for a quart of beer.) Ornette took one spin through the Vinyl Cleaner and returned to the platter of my Thorens TD 124, outfitted at the time with the Abis SA-1.2 tonearm, Denon DL-103 cartridge, and Ampliserv (née Neumann Bv33) step-up transformer. Less than a minute into "Lorraine," I wondered, while marveling at the now-total absence of clicks and other surface noise: *How could I have mistaken this colorful, touchful, altogether brilliant 10 of a recording for an 8?*

Thus the Vinyl Cleaner has earned its keep, in my home and in those of numerous other audio enthusiasts, including at least three *Stereophile* contributors. Yet even then, a small



The Vinyl Cleaner put the reliably in reliably good.

shortcoming remained: The Vinyl Cleaner couldn't be used with 7" or 10" vinyl discs. To this non-engineer, the problem seemed insurmountable: Records are loaded in the Vinyl Cleaner the way dishes are loaded in a dishwasher—edge-down and perpendicular to the floor, not face-down and flat—and are rotated within the machine by a pair of turnstiles that grip and drive the disc's outermost edge. Because the washing chamber automatically fills itself with water to a level just shy of an LP's paper label, and because the machine's surface-cleaning drums are also sized for the grooved area of a 12" record, a smaller disc just

1 I consider *aftermarket* AC cords to be accessories, simply because virtually every commercial audio product that relies on AC power comes with a perfectly good freebie.

2 Phono transformers comprise a gray area: Especially in a system in which active preamplification provides sufficient voltage gain for low-output pickups, an outboard transformer could be considered inessential, I suppose.

3 Audiodesk-systeme Gläss, Seestrasse 1, D 89551 Königsbrunn, Germany. Tel./Fax: (49) 07328-7138. Cell: (49) 171-600-1363. Web: www.audiodesk-systeme.de. US distributor: Ultra Systems, Inc., 127 Union Square, New Hope, PA 18913. Tel: (215) 862-6570. Fax: (215) 862-4871. Web: www.ultrasystem.com.

4 See Michael Fremer's and Fred Kaplan's reviews in the June 2012 and September 2013 issues (www.stereophile.com/content/audio-desk-systeme-vinyl-cleaner), and my column in the March 2015 issue (www.stereophile.com/content/listening-147).



Theater for music lovers.

For most people, a home theater is also the primary music system. At Rotel, we have been receiving accolades for high performance audio for over 50 years. With the new RSP-1582, we have used that vast experience to design a home theater preamp/processor for audiophiles. One that envelops you in dramatic cinematic sound, but also does full justice to pure music listening.

The RSP-1582's audio performance is anchored by a sophisticated power supply complete with a custom Rotel manufactured toroidal transformer. Six Wolfson 24bit, 192 kHz DACs are employed – four dedicated DACs for the most critical Front Left, Front Right, Center and Subwoofer channels with shared stereo DAC's for the rear and surround channels. Surround processing is handled by a powerful Texas Instruments DSP engine, with 10 channels of Parametric Equalization available. An extensive suite of digital and analog inputs are provided – including PC-USB with support of up to 24 bit/192kHz decoding and Bluetooth streaming with aptX. And there is also a phono stage, and an analog bypass mode. Both single ended and XLR outputs are provided.

The RSP-1582 is replete with all of the functions, features and performance that any home theater enthusiast could want, too, including eight HDMI video inputs with two HDMI outputs (one with ARC), all supporting 4K video pass-through, RS-232 and IP control, Internet-based software updating, IR inputs/outputs, 12 volt triggers and the other essential elements of a sophisticated home theater. A 7" TFT screen allows easy set-up and system changes even when the equipment is located remotely.

To learn about all the RSP-1582's features and hear its remarkable performance visit your nearest authorized Rotel dealer.



www.rotel.com

can't work in the Vinyl Cleaner.

What I didn't imagine was the same sort of adapter that made possible the playing of 3.1"-diameter Mini CD singles (remember those?) in standard-issue CD players, back when the former existed and the latter were still popular.⁵ Last summer, word bubbled out that the Vinyl Cleaner's US distributor, Ultra Systems, was about to introduce just such an accessory: The company's A-Rings began shipping in August at a cost of \$125 for a set of two: one each for 7" and 10" discs. Designed in collaboration with Vinh Vu, of Gingko Audio, the A-Rings are made of 0.06"-thick black acrylic. The A-Ring for 7" records has a diameter of 11¼", while the A-Ring designed for 10" discs is 11½" across. Both dimensions appear to have been chosen so that the modulated grooves of discs inserted in them are completely submerged during the wash cycle, and the labels are not.

The A-Rings' inner diameters are sized to accept 7" and 10" records, with a gap of perhaps ⅓" between record and Ring. Both A-Rings are drilled with evenly spaced, ⅓" holes—three holes in the case of the A-Ring for 7" records, four for the Ring for 10" discs—whose centers are so close to the Ring's inner edge that the small holes are open to the large, circular opening at the center of the Ring. Inserted in each small hole is an elastomer grommet, and it is the exposed edges of these grommets that hold in place the records whose bath time awaits.

Hobbyists familiar with Mini CDs—the only one I ever bought was XTC's "Thanks for Christmas," which I have since misplaced—will recall the consistently tight fit between those little discs and the adapters made for them. Those same audiophiles may wonder: Why can't we have a Vinyl Cleaner accessory that holds vinyl records with similar precision? The answer: Not only do 7" and 10" records *not* actually measure 7" and 10" in diameter, but your chances of finding, say, any two 7" records of precisely the same diameter are little better than your chances of grabbing a handful of pennies and finding more than one stamped with the same date.

In describing the development of the A-Rings, Robert Stein of Ultra Systems suggests that finding an inner circumference that was neither too small for the largest record nor too large for the smallest required considerable time

and effort. Indeed, the earliest samples of the smaller A-Ring proved to have *slightly* too large an opening for a small percentage of 7" discs: Current-production A-Rings have an opening marginally but significantly smaller.⁶ (I have review samples of both sizes of 7" A-Rings, and while the earlier never proved too big for any of my records, I commend the change.) In the case of too-small records, the grommets can be tugged very slightly away from the centers of their holes and nearer the center of the Ring, to exert a tighter grip.

How could I have mistaken this brilliant 10 of a recording for an 8?

JUMPING THROUGH HOOPS: A-Rings are supplied with a two-sided instruction sheet, clearly written and illustrated with good photographs. (A .pdf file of this sheet can be downloaded from the Ultra Systems website.) While noting some room for improvisation, the instructions suggest that loading a record into an A-Ring is best done on a flat surface, with one grommet hanging over the edge of that surface. The instructions also candidly suggest that, when removing a newly washed record from an A-Ring, one should do so on a sheet of paper towel or similarly absorbent material: Despite good intentions and the Vinyl Cleaner's otherwise fine talents as a Vinyl Dryer, there's no getting around the fact that liquid *will* collect at those points where grommets grip vinyl. Also, as the record rotates and as each grommet in turn passes through the machine's thin rubber "lips," fluid that collects under the latter is flicked into the air, often landing on the record itself. Your takeaway: This is wet work, so keep at hand a good supply of paper towels, paper napkins, or soft cloths (never facial tissues, which shed their dandruff all over the place).

The A-rings are not a *perfect* solution, but they did the job effectively and without too much fuss: It's hard for

5 Some CD players, most of them drawer loaders, can't sense the presence of a disc whose diameter is less than 120mm.

6 Robert Stein of Ultra Systems told me that anyone who purchased an early set of A-Rings, and for whom the smaller Ring has too large an opening, can request a replacement through their dealer or from Ultra Systems.

"extraordinarily powerful... uncolored... natural"

- John Atkinson, *Stereophile*



The JosephAudio Pulsar

15" High, 8 1/2" Wide.

Spectacularly Deep.

Get the full story at

www.josephaudio.com

"Devastatingly right"

"The Pulsars are veritable light-sabers"

- Steven Stone, *The Absolute Sound*

"For those of you who have dreamed of owning relatively compact stand mount monitors that really do convey the sense of reproducing (near) full-range bass, your loudspeaker has arrived!"

- Chris Martens, *The Absolute Sound*

JosephAudio

**EFFORTLESS MUSICALITY
EXCLUSIVE TECHNOLOGY
(800) 474- HIFI (4434)**

WILSON[®] AUDIO



On Display...

Alexandria XLF , Alexia , Sasha II , Duette II , Sophia 3 , Sabrina

jsaudio.com

Washington DC
301-656-7020

Established 1985 . Celebrating 30 years serving Washington DC

me to imagine how the thing could be better done in the here and now. (Then again, it was hard for me to imagine how the thing could be done at all.) My own doubts were dispelled when I was finally able to *really* clean my smaller records. I won't soon forget the happy results of my second trial of the A-Rings, when I cleaned the 45rpm single of Paul McCartney's "Another Day" that my sister gave me on my 17th birthday. I despaired of that record ever sounding good—yet, despite the lingering effects of a few severe scratches, the audible effect of removing 44 years' worth of dirt left me somewhat misty-eyed.

I was even more impressed after trying the A-Rings with selections from my growing collection of 10" LPs, including: the Tal Farlow Quartet's eponymous debut (a Japanese reissue of Blue Note 5042); violinist André

The audible effect of removing 44 years' worth of dirt left me somewhat misty-eyed.

Gertler, with Paul Kletzki and the Philharmonia Orchestra, performing Berg's Violin Concerto, "To the Memory of an Angel" (UK Columbia 33C 1030); and Charlie Parker's epochal *New Sounds in Modern Music, Volume 1* (Savoy MG 9000). The gains heard after cleaning the Parker in particular—more color and impact, much more openness of sound, and, yes, less groove noise—were greater than I'd expected. Incidentally, while I had those three records off the shelf and out of their jackets, I carefully stood them next to each other, edge-down, and compared their diameters: No two were the same, with Parker the smallest, Berg bigger, and Farlow biggest. The differences, though not gross, were noticeable. So there you go.

HEAR NO EVIL: A number of months ago, an industry insider whom I respect offered an unsolicited observation that, if true, could be cause for concern. He suggested that, when ultrasonic cleaning machines of *any* sort are in use, people in the vicinity can suffer irreparable hearing damage—due in part to the fact that, by definition,

ultrasonic soundwaves are inaudible (though this fellow claimed to be able to hear such things without difficulty). Because I found the assertion unconvincing, and because this gentleman is friendly with the manufacturer of a competing, non-ultrasonic record cleaner, I took it with a grain of salt. And yet: To tell a middle-aged man whose livelihood depends on his sense of hearing that his favorite new toy is slowly murdering his ears is to loose a worm of doubt that, left unchecked, can only grow.

So I checked. Consultations with Dr. Google produced various theories, the most alarming of which was a study that suggested the need to protect the users of large, industrial-grade ultrasonic cleaners by enclosing said machines in soundproof enclosures. Yet I know that the Vinyl Cleaner is distinct from such machines—and, apparently, from other record-cleaning machines that use ultrasonic cavitation—in that Audiodesksysteme's product uses only low levels of ultrasonic energy, and during only a portion of the 1-minute, 15-second record-washing cycle.

So I put the question to Ultra Systems' Robert Stein, who had been unaware of any such concern, but took it seriously and promised to investigate. He tested the Vinyl Cleaner with a real-time analyzer and fast Fourier transform but found nothing alarming, reporting that "the increase in noise level at all frequencies is not very large; nothing much happening at all at higher frequencies."

Stein also put the question to Reiner Gläss, the Vinyl Cleaner's designer and manufacturer. Gläss replied that, in accordance with EU regulations, manufacturers are required to have ultrasonic devices tested for safety by an independent laboratory. According to Gläss, the Vinyl Cleaner passed all tests based on pertinent standards⁷ for electromagnetic compatibility (EMC), and he added that the lab technician appended this comment: "There is everything ok and no damage to ears of anybody or even my dog."

Family and close friends know me as a worrier, if not quite a crepehanger; if I harbored the slightest misgivings about the safety of the Audiodesksysteme Gläss Vinyl Cleaner, they have been vanquished. As for the efficacy—and essentialness, and necessity—of this expensive but apparently peerless *accessory*, I see even less room for doubt.

—Art Dudley

⁷ EN 55014-1 (2000); EN 55014-1 A1 (2001); EN 55014-1 A2 (2002); EN 61000-3-2 (2000); EN 61000-3-3 (1995); EN 61000-3-3 A1 (2001); EN 55014-2 (1997); and EN 55014-2 A1 (2001).

LA Lehmannaudio

Musical
perfection
begins with
German
engineering.



Decade Phono Stage

A milestone among the phono preamplifiers.

Distributed by:

ORTOFON INC
500 Executive Blvd Suite 102
Ossining, NY 10562
Phone: (914) 762-8646
Fax: (914) 762-8649
info@ortofon.us
www.ortofon.us

Music to your ears.

www.lehmannaudio.com/decade



HDtracks

WE TEST EVERY TRACK

The Best Sounding Music. Guaranteed.

HDtracks is dedicated to bringing the best-sounding music to you. We are the only hi-res music store with an in-house team of audiophiles testing every track to ensure they meet our stringent quality standards. HDtracks brings you closer to the music you love. You will hear the difference.

Save 20% on your first order when you enter code
STEREOPHILE20HD at checkout.*

Now offering DSD! Learn more at www.hdtracks.com/dsd

Visit our vinyl store at www.hdtracksrecordstore.com



* Limit one use of code per customer. Region restrictions may apply. Offer expires 1/31/2016 11:59PM PST.

Why Vacuum-Clean Your Vinyl?

Clean records sound way better than dirty ones. According to US Government expert Gerald L. Gibson, "Dust can become embedded permanently into the disc's grooves, causing distortion of the transmitting signal, ticks, pops, and inferior sound quality."* Plus it just makes sense that a clean, well-cared for record is more valuable, too.

Why Buy The Record Doctor?

Stereophile Magazine called the Record Doctor "the least expensive way to effectively clean records." And *Stereophile's* Analog Guru, Michael Fremer, reported "I highly recommend the Record Doctor to any serious vinyl fan."



Why does the Record Doctor cost so little? Inside the black vinyl-wrapped cabinet is the same high-powered vacuum motor as used in the more expensive cleaning machines,

but Record Doctor lacks the expensive motor that turns the record for you. So turn your records yourself and Save!

Try the Record Doctor Risk Free!

Record Doctor V with 4 oz. fluid applicator bottle, applicator brush, and illustrated cleaning instructions. [RDV] Was \$299, for a limited time only \$199.00 – plus Free Shipping in the US

To Order Call (800) 942-0220 or visit audioadvisor.com

Engineered in USA • ©2015 Audio Advisor, Inc.

*Gerald L. Gibson, Head of the Motion Picture, Broadcasting, and Recorded Sound Division of the Library of Congress, 1991



"Truly Superior Sound - The sound through the Doshi Audio V3.0 products was warm and inviting as in, "I must hear more."

- Jason Serinus. *Stereophile*, "AXPONA 2014"



Contact U.S. Dealer:



(734) 662-3595
www.paragonsns.com



A Trusted Name Since 1989!

Find all your hot music & gear at elusivedisc.com

What you can expect from us:

- Excellent Customer Service.
- Speedy & Safe Delivery.
- Expert Help & Advice.
- The Best in Audio Equipment!
- Great Selection of Music from ABBA to ZZ Top!



Led Zeppelin!
WEA 180g Dlx LPs & CDs



Roger Waters | The Wall
Columbia 180g 3LP



Hank Mobley | Soul Station
All Music Matters 180g 33 1/3rpm LPs



Rush | Roll The Bones
Atlantic 200g LP



Adele | 25
Columbia 180g LP



Roger Waters | Amused To Death
200g 2LP, Pic Disc, SACD, Blu-Ray & CD



Kenny Burrell | Midnight Blue
All Music Matters 180g 33 1/3rpm LPs



Phil Collins | Face Value
Rhino 180g LP



Everclear | So Much For The Afterglow
Intervention Records 180g LP



Chasing The Dragon
Audiophile 180g LP, 45 & CD



Stealers Wheel | Stealers Wheel
Intervention Records 180g LP



David Gilmour | Rattle That Lock
Columbia LP, CD & Blu-Ray



Music Matters Blue Note
180g 45rpm 2LPs



Nirvana | Greatest Hits
Geffen 150g LP & 45rpm 200g 2LP



Dave Brubeck | Time Out
Analogue Productions 200g LP



Celine Dion | Falling Into You
Sony Stereo Import SACD



Peter Gabriel | 2 (Scratch)
Real World 180g 45rpm 2LP



Black Crowes | Southern Harmony
Universal 180g LP



Donald Fagen | The Nightfly
WB M-CH Japanese Import SACD



Vanessa Fernandez | Use Me
Groove Note 180g 45rpm 2LP & SACD



Lyn Stanley | Interludes
AT Music 45rpm 2LP & SACD



Fiona Joy | Signature - Solo
Blue Coast Records SACD



Alice Cooper | Muscle Of Love
Audio Fidelity SACD



Jennifer Warnes | Famous Blue Raincoat
Impex 180g LP & Gold CD



Sarah McLachlan | Mirrorball
AP 45rpm 200g 3LP & SACD



Holst | The Planets
Analogue Productions SACD



A plethora of products to make your precious music collection sound better than the day you bought it!



elusivedisc.com

Call Today! 800-782-3472

fax: 765-608-5341 Info: 765-608-5340 • 4020 frontage rd anderson, in 46013 • sales@elusivedisc.com • m-f 9-6 sat 11-3 est

RECORD REVIEWS

The last time we had a big-budget, studio recording of *Aida*, in fact, the last was from 2001, and it was awful—conductor Nikolaus Harnoncourt's attempt to present an intimate (read: "miniaturized") reading of the score, a sort of period-instrument approach with small-voiced singers. *Aida* has been taken on nearly 30 studio outings (the first was in 1928), and there are "private" and video versions. This is one of the best, with what might arguably be the finest cast one can assemble today.

One might argue that recording *Aida* without an Italian in an important role is heresy, but if that were the case, many others would also be burnt at the stake: Leontyne Price, Jon Vickers, and Rita Gorr under Georg Solti; Maria Callas and Richard Tucker; not to mention Zinka Milanov, Jussi Björling, and Leonard Warren. Granted, Renata Tebaldi and Carlo Bergonzi under Herbert von Karajan do offer a type of plush singing, filled with *morbidezza*, and Karajan is at his most extraordinary. (Those who recall John Culshaw will own that spectacularly fidgeted-with recording, which was/is billed as an attempt to re-create how it would be heard onstage. It now seems a bit too in-your-face for my taste.)

This new recording was made in February 2015, a few days before a concert performance in Rome's Auditorium Parco della Musica. Designed by Renzo Piano and opened in 2002, it is considered the finest auditorium in Italy. The sound is utterly natural, and conductor, players, singers, and engineers pay diligent attention to Verdi's dynamic markings without any artificial fiddling. Pianissimi are quiet—the very opening of the opera is present but absolutely hushed, with Verdi's divided strings clear and warm. When the forte comes (at 1:40), it blows up neither your head nor your speakers. The offstage prayers in the Nile Scene are truly distant, and add to the gloriously still atmosphere of those first few, tranquil moments before *Aida*'s agitated entrance; in Act IV, the



Anja Harteros, *Aida*; Eleonora Buratto, High Priestess; Jonas Kaufmann, Radames; Ekaterina Semenchuk, Amneris; Ludovic Tézier, Amonasro; Erwin Schrott, Ramfis; Marco Spotti, The King; Chorus & Orchestra of Santa Cecilia Academy Rome, Sir Antonio Pappano
Warner Classics 0825646106639 (3 CDs). 2015. Stephen Johns, prod.; Luca Padovano, Giancarlo Ianucci, Claudio Emili, Marco Emili, engs. DDD. TT: 2:26:45

PERFORMANCE ★★★
SONICS ★★★

Priests and Ramfis are supposed to be in some sort of subterranean chamber, and are thusly recorded. These and Verdi's other written 3D effects (eg, the onstage brass for the Triumphal Scene) and massed moments are re-created just as effectively as are the intimate ones. Despite the very effective big set pieces, we are presented here with a tender, doomed love story; rarely has the hushed Tomb Scene sounded so reflectively sad, both vocally and orchestrally.

Antonio Pappano's insistence on legato in both singing and playing (and the Santa Cecilia Orchestra and Chorus have this music with their breakfasts) trump the non-Italianess

of the cast. Aside from Ekaterina Semenchuk as Amneris, none of the principals had yet sung his or her role onstage when this was taped. When we first meet Semenchuk's Amneris, she sings sweetly and gently to Radames, dipping into chest voice only in the trio in the first scene in which *Aida* and Radames realize they may be found out and Amneris begins to let loose her anger. Each vocal line is understandable, the feelings rather than the volume are paramount, and Amneris becomes dangerous. Her Judgment Scene is very much of the grand school of Cossotto and Barbieri: exciting.

Anja Harteros, a German soprano who sings a great deal of Verdi, has the style down perfectly but is somewhat lacking the breadth needed in the middle of the voice. She is, however, a fine singing actress, and at first a timid *Aida*: a woman in love, a victim of her fate. The voice is attractive, even if it does occasionally let her down—it loses its center when she sings quietly, and the high C in "O patria mia," while forgivably not sung softly, is a hair flat. But she reacts superbly to each situation around her: her reading is a success. Her Radames, Jonas Kaufmann, is close to faultless. With Pappano's help, he sings "Celeste *Aida*" as if in a dream, sliding perfectly up to the Fs softly on the second syllable of "*AiDa*," as written, letting loose with big, virile sounds when he should, and closing the aria on the high B-flat softly—and then reins it in even further, as Verdi wanted. He is always involved and alert, both a warrior and a lover, and incapable of being boring. A cross between Vickers and Bergonzi, I'd say, and it doesn't get any better.

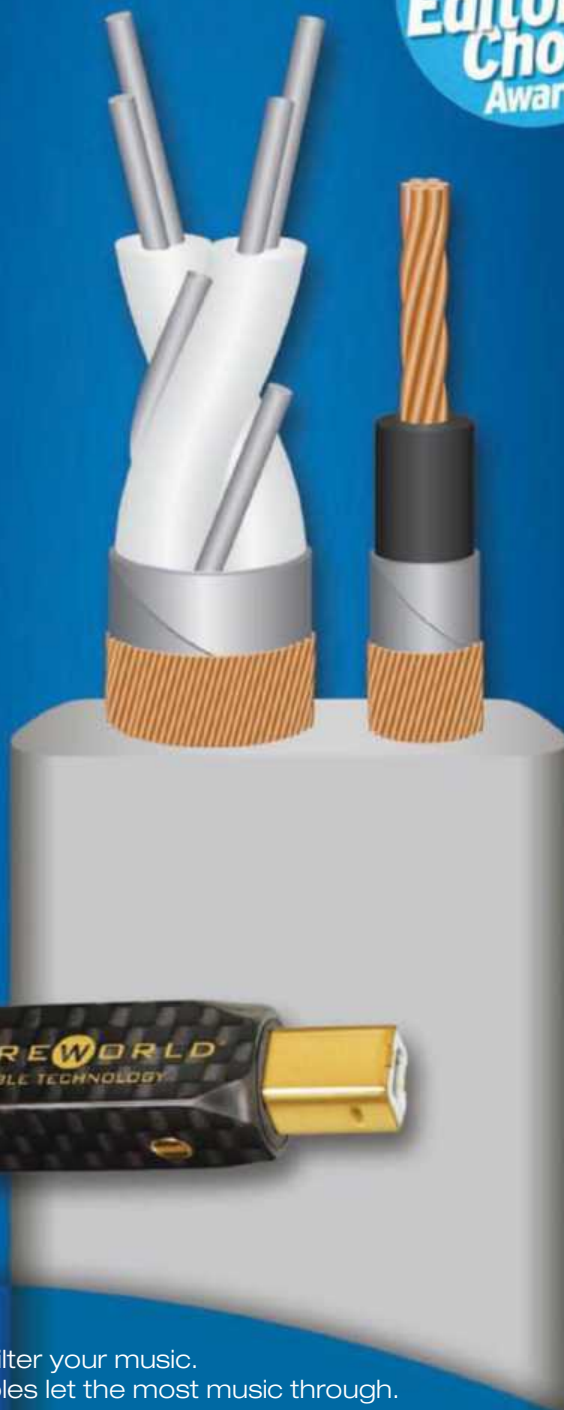
Ludovic Tézier's Amonasro is well drawn and handsomely sung, if a bit soft-edged; he's good enough to scare *Aida* in Act III. Erwin Schrott's Ramfis does not quite bully enough; Marco Spotti, as the King, sings with authority. Eleonora Buratto's Priestess is ravishing. And the Santa Cecilia forces could not be bettered. A stunning achievement. —Robert Levine

The Difference is in the Design

Platinum Starlight 7's patented DNA Helix design channels more electromagnetic signal energy than others, providing industry-leading transmission speed and amazingly lifelike sound quality.

"The Platinum Starlight 7 has no peer in soundstage size, airiness, tempo tracking, dynamics, bass pitch, timbral realism, and lack of grain."

THE ABSOLUTE SOUND
MARCH 2015



WIREWORLD
CABLE TECHNOLOGY
Engineered for Reality™

Other cables filter your music.
Wireworld cables let the most music through.

Technology that channels musical expression.

www.wireworldcable.com

© 2015 Wireworld, Inc.

DNA Helix U.S. Patent #8,569,627



ROCK/POP


TERRY ADAMS
Talk Thelonious

Clang! CL-514 (CD). 2015. Terry Adams, Don Sheldon, prods.; Norm DeMoura, Bennett Shapiro, engs. ADD? TT: 51:52

PERFORMANCE ★★★★★
SONICS ★★★★★

For close to a half century, NRBQ has built its reputation as a beloved and quirky musical institution. Bandleader Terry Adams and company could play as outside as Sun Ra or as inside as Carl Perkins, always with a great back-beat and a sly wink at the audience. A couple years back, when Adams recruited an entirely new group of NRBQers, some diehard fans claimed that the new band lacked its trademark sense of humor.

For relief, Adams turned to one of his heroes. Thelonious Monk had faced the opposite problem—after critics vilified Monk for his unorthodox debut album for Blue Note, producer Alfred Lion asked him to make an album of standards. But where Lion was looking for traditional legitimacy for Monk, Adams has managed to restore his reputation for boho *élan* with this wonderful plunge into the brilliant corners of Monk's eccentric compositions.

The solo pipe-organ introduction to "Reflections" begins with an unmistakably Terry Adams approach dedicated to Monk's principles. "In Walked Bud," "Humph," "Ugly Beauty," and "Gallop's Gallop" get fairly straightforward interpretations, but elsewhere, Adams throws in the kitchen sink—with shifting rhythmic variations in "Think of One," chromatic harmonica in "Monk's Mood," ocarina in "That Old Man," and pedal steel guitar in several tracks. "Ruby, My Dear" becomes a triplet-driven cinematic theme augmented by French horns, violins, and harp. To most, Monk's music is a minefield; few have gone as deeply down that rabbit hole as Terry Adams and NRBQ+ have here.—**John Swenson**


BOB DYLAN
1965-1966: The Cutting Edge
The Bootleg Series Vol.12, Deluxe Edition

Columbia/Legacy 88875124412 (6 CDs). 2015. Tom Wilson, Bob Johnston, orig. prods.; Jeff Rosen, Steve Berkowitz, Bootleg Series prods.; Steve Addabbo, mix; Mark Wilder, mastering. AAD? TT: 7:09:21

PERFORMANCE ★★★★★
SONICS ★★★★★

Early in Sean Wilentz's notes for this set, the facts are succinctly laid out. In the 18 months between January 1965 and July 1966, when he had a motorcycle accident, Bob Dylan made the concert film *Don't Look Back*; played the Newport Folk Festival to great acclaim or derision, depending on your opinion; toured for the first time with the Band; mounted tours of Europe, Australia, and America, some of which was later documented in the audio recording "*The Royal Albert Hall Concert*" and the films *No Direction Home* and *Eat the Document*; and, finally, recorded enough material for four albums, though only three were actually released during this period: *Bringing It All Back Home*, *Highway 61 Revisited*, and *Blonde on Blonde*.

"It is astonishing to realize," Wilentz marvels, "that in a single day, January 15, 1965, Dylan recorded the final versions of 'Maggie's Farm,' 'On the Road Again,' 'It's Alright, Ma (I'm Only Bleeding),' 'Gates of Eden,' 'Mr. Tambourine Man,' and 'It's All Over Now, Baby Blue.'"

Now, the latest volume of Columbia's extraordinary program of Dylan reissues, *The Bootleg Series*, opens a window on the creative churn of that amazing period of Dylan's life and career. Best of all, the three original albums, as released, are not included, with one exception, the master take of "Like a Rolling Stone." This set is made of up only of outtakes, alternate takes, and other unreleased bits of rehearsal, studio patter, fragments, and false starts. Considering the age of the source material, the sound through-

out is exemplary. But what's included in the two-CD/three-LP *The Best of* and the six-CD *Deluxe Edition*, which also includes a 120 page hardcover book, are just highlights. For the truly obsessed there's the *Collector's Edition*: an 18-CD, 379-track set containing "every note recorded by Bob Dylan in the studio in 1965/1966"—virtually all the tape from the sessions, as well as a link to download hi-rez audio files for all 18 discs, a 170 page 11" x 11" book, a strip of film cells from an original print of *Don't Look Back*, nine facsimiles of the nine mono singles Dylan released in those years—and, oh yes, a leopard-skin spindle. That edition, limited to 5000 copies, is available only from bobdylan.com, for \$599.

As liner notes go, Sean Wilentz's for the six-CD set are excellent for their detailed listening knowledge. Dylan's explosion of creativity covered the entire spectrum: his image, confidence, live prowess, recording experience—as well as the all-important music and words. Wilentz notes Dylan's restless and exacting intelligence in the construction of his lyrics; the way, for example, lines from "Sitting on a Barbed Wire Fence" ("Doctor gave me a shot but wouldn't tell me what I got") later showed up in "Just Like Tom Thumb's Blues." He also notes lost tunes, like "I'll Keep It with Mine," [not released until Bootleg Series Vols.1-3] and questions such minutiae as who plays blues harmonica in take 2 of "Outlaw Blues" (probably John Sebastian), and who is the woman singing in the electric version of "If You Gotta Go, Go Now" (probably Angeline Butler).

What's also audible—and, as with all things Dylan, arguable—is that for the first time he was writing tunes meant to be played by a band, rather than a solo folksinger. Could a tune like "Tombstone Blues" even work as an acoustic solo number? To venture onto even thinner ice, could "Like a Rolling Stone," with Al Kooper and Mike Bloomfield, work as well played alone?

Two men produced the three albums released in this period, and everything heard on these six CDs. Tom Wilson, who'd produced Sun Ra and Cecil Taylor, made *Bringing It All Back Home* and "Like a Rolling Stone," and has been quoted as saying that Dylan could be "a white Ray Charles with a message." Some of the best bits of this set are, as Wilentz notes, the talkback exchanges in which Dylan calls out to

Enjoyed Worldwide.



"The Sigma SSP can be regarded as a superb stereo analog preamp, and all the rest of its bells and whistles as a gift."
Kal Robinson, Stereophile, USA

"It combines the flexibility of a Swiss Army knife with the precision of a surgeon's tool in an easy-to-use package. There's simply not enough room here to even pretend to detail what you can do with this processor. It's just awesome."
Theo Nicolakis, Audioholics.com, USA

"But most impressive is the sound quality. This is real high-end at a price that must be considered reasonable. And the step up from the traditional home cinema receivers is nothing but huge."
Ludwig Swanberg, HemmaBio, Sweden

"Oh my, what a wonderful system Classeé has provided with the Sigma range. It shows that audiophile sound is not the sole preserve of stereo and equally that it is not incompatible with reliable and convenient operation."
Stephen Dawson, Audio Esoterica, Australia

"This Sigma system is a huge achievement which everyone must absolutely discover."
Adrien Rouah, Québec Audio & Video, Canada

Wilson fanciful names for new songs—eg, “Phantom Engineer Number Cloudy” (which became “It Takes a Lot to Laugh, It Takes a Train to Cry”) and “Bending Down on My Stomach Looking West” (“California”). Wilson adhered to the standard practices of that time for big labels—three-hour sessions, union run, with everyone rehearsed first—but fortunately for history and in particular this set, Bob Johnston just let the tape run.

While the great selling point here is hearing the songs evolve, the choices of which tracks and takes to include—not a problem in the 379-track version—make that impossible in some cases. “I Want You,” for example, which exists as several false starts, a rehearsal, and three complete takes, is represented here by just a single complete take. For “Stuck Inside of Mobile with the Memphis Blues Again,” however, there are three rehearsal takes (one previously released), a breakdown, and an alternate complete take. Between these, the players can be heard working out their parts and the rhythms, changing them to fit Dylan’s singing. This complete Take 14 was the last before the master take.

Disc 3 is devoted entirely to outtakes of “Like a Rolling Stone,” Dylan’s first hit single. Through 20 tracks, rehearsals, false starts, and breakdowns, the song emerges from a waltz tempo to the fully realized master take, Take 4—though they then continued recording for at least 11 more takes. The last four tracks on disc 3 are each of the four stems, or individual tracks, of the four-track master take, each heard by itself.

It’s fabulous that, as a still-vital artist, Bob Dylan continues to have the interest and confidence to keep releasing his recorded legacy. One can dream that, someday, the same treatment will be given to the recorded legacies of the Beatles 1966–1969 and the Rolling Stones 1968–1972.—Robert Baird

ON THE WEB

Recording of the Month

READ EVERY ONE GOING
BACK TO MARCH 1982 ON
WWW.STEREOPHILE.COM



THE NIGHTOWLS Fame Sessions

Super Sonic Sounds SSS001 (CD). 2015. The Nightowls, prods.; John Gifford III, Jake Langley, engs. ADD? TT: 31:31

PERFORMANCE ★★★★★
SONICS ★★★★★

Initially supercharged by Daptone Records, the retro soul trend shows no signs of abating, and here in their second record, Austin’s Nightowls, whose arrangements and presentation are more polished than most, have wisely decided to tap into history. As the title suggests, the band traveled to Muscle Shoals and Fame Studios to track this album, along the way convincing some old North Alabama soul veterans, like keyboardist Spooner Oldham and bassist David Hood, to sit in on a few cuts.

What usually drags down retro acts is the material: It’s hard to write anything new in a style that was invented and ploughed deep by the likes of Otis Redding, Wilson Pickett, and Aretha Franklin. Yet here, on an album whose eight tracks are all cowritten by the band members, numbers like the joyous, gospelish “Come On Over (Come Together)” and the snappy “Get Up!” mix the old styles with a new energy, much of it supplied by convincing lead singer Ryan Harkrider, whose high voice is expressive and heartfelt. The Nightowls’ three female backing singers and three horn players are used with skill and great feeling.

If *Fame Sessions* has a flaw, it’s that things may be a little too high gloss. From Harkrider’s suit and tie to the immaculate background vocals, the effect, in a song like the otherwise tuneful and likable “City Love,” edges perilously close to soul lite. A little of the grit that the band shows in live gigs would have been welcome here. Still, this is a very promising set from a band that had the respect and good sense to pack and head to Alabama for some genuine mojo.—Robert Baird



LESLIE WEST Soundcheck

Prologue/Mascot PRD464 (CD). 2015. Leslie West, prod.; various engs./studio sources. AAD? TT: 44:14

PERFORMANCE ★★★★★
SONICS ★★★★★

The Artist Formerly Known As The Great Fatsby follows up 2013’s *Still Climbing* with a little old, a little new, a little borrowed, and several blues. As a longtime West fan who not only caught Mountain in its 1970s heyday but also got to see West and drummer Corky Laing in recent years, I have to admit that *Soundcheck* is not without flaws, chiefly in sequencing and sound.

It kicks off with the visceral fuck-you of “Left by the Roadside to Die,” which, with its synth undercurrent and sturdy riff, marks it a descendent of “Who Are You” and Don Nix’s “Going Down.” Hold that thought: track 8 is a blazing cover of “Going Down,” here a star-studded supersession cut a decade earlier with Brian May, Max Middleton, Bonnie Bramlett, David Hood, and Bobby Whitlock, now with a freshly recorded West vocal. Those two bluesy blowouts alone are nearly worth the price of admission.

But *Soundcheck* falters chiefly in its inability to sustain momentum; a high-energy track is followed by a mellow one, then by another upbeat one, etc.; mini “sets” might’ve served the material better. For example, a minor-key take on “You Are My Sunshine” would’ve segued nicely into the acoustic finger-picking of “A Stern Warning,” followed by the solo-bass rendition of “Eleanor Rigby.” Instead, the sequencing seesaws, and since the tracks have varying sources (the last one, “Spoonful,” with guest Jack Bruce, was cut live in ’88), the sound quality is frustratingly uneven.

Ill that aside, *Soundcheck* is a decent addition to the catalog that will please devotees of West’s scorching fretwork and mike-shredding vocals.—Fred Mills



iFi micro iUSB3.0
\$399

iFi micro iDAC2 DSD
\$379

ENHANCE YOUR DIGITAL-AUDIO EXPERIENCE

musicdirect

800-449-8333 | MUSICDIRECT.COM

CUTTING EDGE COMPUTER (AND ANALOG!) AUDIO

• PURE MUSIC® V2

Enhances and Complements Apple's iTunes with:

- Native DSD File Playback (via DoP) or Automatic PCM Conversion
- Automatic Sample Rate Switching up to 384 kHz and 5.6 MHz DSD
- Multi-Amp Crossover / Audio Plug-ins for Room Correction / EQ, etc.
- Docks with iTunes - supports Apple iOS Remote App
- Much, much more...



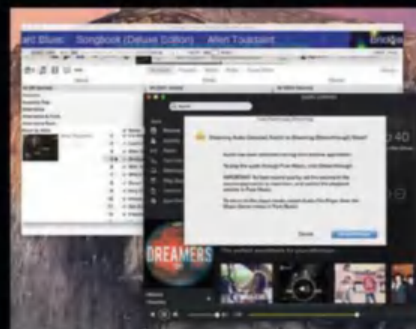
• PURE VINYL™ V4

- High Resolution Vinyl Ripping / Software RIAA Compensation / Editing
- Links LP Playback with High Resolution (192/24) Digital



• SETA® Phono Preamplifiers

- Includes Flat Output, Ideal for use with Pure Vinyl
- Fully Balanced / Battery Powered
Low Noise / DC to 5,000,000 Hz (-3 dB)
- Stereophile Editors' Choice "Class A" Recommendation (Model L)



Pure Music Includes Streamthrough
Play Internet Streamed Audio and use Pure Music EQ, audio plug-ins, crossover, metering, etc. with automatic switching from file playback to streaming (automatic stream detection), all from the same music player software!*

CHANNEL D - Celebrating 20 Years In Business 1995-2015 / www.channld.com

*Streamthrough may not be suitable for all computer / DAC combinations. Please download and try our free Demo to determine the performance on your own system.

JAZZ



CAROLINE DAVIS
Doors: Chicago Storylines

Caroline Davis, alto saxophone, voice; Russ Johnson, trumpet; Mike Allemana, guitar; four others; voices of Chicago musicians
Ears & Eyes 15-039 (CD). 2015. Caroline Davis, prod.; Vijay Tellis-Nayak, eng. DDD. TT: 64:10

PERFORMANCE ★★★★★
SONICS ★★★★★

If you are a talented alto saxophonist and composer who spent eight transformative years in Chicago and recently relocated to New York, how do you devise a meaningful tribute to your old town? Caroline Davis came up with a bold, risky concept. She recorded the spoken words of 13 Chicago musicians, including Von Freeman, Ed Petersen, and Art Davis. They reminisce about the Chicago scene: hangs like the Green Mill and the Bop Shop; great, unsung players like Lin Halliday. Their fond, funny, poignant memories mostly come from the 1980s and '90s, an era that Davis describes as “golden” and “virtually uncharted.” Davis uses these oral histories as inspiration for a set of compositions, and weaves them into her music.

Mixing spoken word and jazz usually doesn't work. Davis's project succeeds because, as each speaker finishes, her band comes in burning. In one of the verbal interludes, the musicians try to define “the Chicago sound.” They come up with “very blues based . . . not real busy . . . just kind of grooving.” Davis, trumpeter Russ Johnson, and guitarist Mike Allemana are Chicago-affiliated players who exemplify these qualities. “Lincoln Land” starts with a melody in long, yearning trumpet and saxophone calls, then relentlessly intensifies. In “Chicago Sound?,” Davis plays an edgy, free testimonial to the Gene Ammons Chicago school. She and Johnson are “blues based” but also aflame with fresh ideas. Allemana is an under-the-radar badass.

Davis's montage is a sincere offering that neither music nor words alone could create.—**Thomas Conrad**



BENOÎT DELBECQ
Ink

Benoît Delbecq, piano; Miles Perkin, bass; Emile Diayenda, drums, percussion
Clean Feed CF340 (CD). 2015. Benoît Delbecq, prod.; Etienne Bultingaire, eng. DDD.
TT: 48:47

PERFORMANCE ★★★★★
SONICS ★★★★★

Benoît Delbecq rises to new textural heights with prepared piano in a trio setting on *Ink*, a follow-up to his captivating *The Sixth Jump* (2010). “Le Ruisseau,” the leadoff track, memorializes Delbecq's longtime bassist Jean-Jacques Avenel and introduces us to Avenel's successor, Miles Perkin.

The surreal beauty of Delbecq's elaborate system, involving carefully placed objects that buzz and ping as he strikes the keys, is one of a kind. With Brazzaville-born drummer Emile Diayenda, Delbecq becomes a second percussionist. At times he'll prepare left-hand keys only, leaving the right-hand register to sing out in angular post-tonal lines and knotted harmonies. More subtly, he'll prepare a note here, another there, allowing muted-string sonorities to emerge as if by chance. In “L'Esprythme” he creates shimmering resonances that defy obvious explanation—thankfully, they were captured in pristine detail at Studio de Meudon, near Paris.

“Nombre” and “Figures” emphasize the “natural” piano sound, prompting rubato abstraction and bristling interplay with strong traces of jazz-piano trio heritage, but also 20th-century classical music.

As pianist Fred Hersch observes in his liner notes, “Ronchamp” first appeared on *Fun House* (2012), by Delbecq and Hersch's Double Trio. There it began sparsely with no drums, building to a peak with full band, then dying down again. On *Ink* it's a split-screen affair: out-of-tempo sections alternate with outbreaks of bright swing, saying much about how this trio summons sound and engages the ears.—**David R. Adler**



AMINA FIGAROVA
Blue Whisper

Amina Figarova, piano; Bart Platteau, flutes; 11 others
In+Out IOR CD 77128-2 (CD). 2015. Amina Figarova, Frank Kleinschmidt, prods.; Max Ross, eng. DDD.
TT: 63:04

PERFORMANCE ★★★★★
SONICS ★★★★★

Today, jazz innovators come from everywhere. Amina Figarova grew up in Azerbaijan, started a career as a concert pianist in places like Moscow, converted to jazz while studying in the Netherlands, and now lives in Harlem.

Her 13 albums to date are a unique body of work, a seductive synthesis of elegance and soul. She has usually performed in sextets with excellent European players, including her husband, flutist Bart Platteau. On *Blue Whisper*, long-term associates like tenor saxophonist Marc Mommias are still showcased. Platteau is still front and center, providing Figarova's ensemble with its signature airy brightness. But she has now recruited strong Americans as band members and guests. Saxophonist Wayne Escoffery, bassist Luques Curtis, trumpeter Alex Pope Norris, and guitarist Anthony Wilson diversify the colors and textures of Figarova's complex music and deepen its urgencies.

Her compositions are impeccable, detailed, complete forms. Most often they embody her faith and romanticism, as in “Moonrise” (where Ernie Hammes on flugelhorn is softly fervent) and “Hewa” (where Mommias and Sara Elizabeth Charles, singing in Swahili, are pure spirit). But she can also deal with the darkest subject matter and issue powerful social commentary. In “Hear My Voice,” an eight-year-old girl protests the gunfire and mindless cruelty of the world she was born into.

One reason Figarova albums sustain such high quality is that players respond to the musical environments she creates with their best, most concentrated work.—**Thomas Conrad**

Advanced technology – at an affordable price!

Dayton Audio's new B652-AIR 6-1/2" speakers feature a pleated ribbon diaphragm AMT tweeter. Experience the already famous sound quality of the B652—now with even more smoothness and detail!

- Air Motion Transformer tweeter provides treble clarity
- The most reasonably priced speaker using AMT technology
- 5-year warranty and 45-day no-hassle return policy

"...the least-expensive way to share our enthusiasm for recorded music."—John Atkinson, Stereophile

Visit parts-express.com/spm for more information

DAYTONAUDIO

Distributed By:

PARTS
Express

Toll-Free 1-800-338-0031
725 Pleasant Valley Dr.
Springboro, OH 45066

For a full list of worldwide distributors visit: daytonaudio.com

David Lewis Audio Ltd

THE FINEST IN HIGH END AUDIO

KEF BLADE



Aerial	Joseph
Aesthetix	KEF
AMG	Luxman
ATC	Naim
Audience	Nola
Audio Physic	Octave
Audio Research	Pass Labs
Balanced Audio	Primare
Bergmann	Proac
Boulder	Simaudio
Chord	SME
Clearaudio	Sonus Faber
Conrad Johnson	Soulution
D'Agostino	Totem
DCS	Unison
Dynaudio	Verity
Exposure	Vienna
Feickert	Vivid
Hegel	YG Acoustics

DAVIDLEWISAUDIO.COM

215-725-4080

MANUFACTURERS' COMMENTS

THIS ISSUE: TARA Labs, Acoustic Sounds, AudioQuest, SotM, and JL Audio comment on our reviews of their products.

TARA Labs Omega Evolution

Editor:

Michael Fremer's somewhat confusing recent review of TARA Labs' Omega Evolution speaker cable (December 2015, p.27) was the result of us initially sending him the wrong version of the cable. We based our choice on what we thought he had in his reference system, and that was our error. (Going forward, we'll read the "Associated Equipment" sidebars more carefully.) We want to make sure *Stereophile* readers know that the cable that did not work well in his system has already gotten many outstanding reviews. The SP version he needed, and eventually got, has greater inductance than the original one we sent. Our mistake.

While there is no ideal value for inductance (L) because resistance is very low, in some cases the amplifiers like to "see" greater inductance, and that proved to be the case with Michael's darTZeel NHB-458 monoblocks. That is why the SP version proved ideal for his system.

At TARA Labs, we strive to manufacture audio cables that are not just able to work with any components and sound great, but that will actually be the "perfect choice" for any particular component manufactured in the past, present, and, hopefully, the future. To that end, we have now created and categorized our speaker cables as "low inductance" and "increased inductance" models, thereby offering audiophiles the ability to have that symbiotic relationship that we all strive for in our audio systems. As mentioned in the article by MF, you can read on our website a full description of our speaker-cable categories (www.taralabs.com/making-sense-of/45-making-sense-of-evo-cable), as well as information about "bandwidth" for interconnects (www.taralabs.com/controlled-extended-bandwidth-info).

Readers can also call or e-mail us with any audio-cable questions. *Devon Scott
TARA Labs*

SME Model 15A

Editor:

A big Thank You to Michael Fremer for the many accolades in his review of the SME Model 15A turntable. In this era of ever-increasing upmarket offerings, it

is very rewarding to have a product on the lower end of SME's offerings so well received. Also intriguing was the mention of their original turntable's wooden mockup made by SME's founder, the late Alistair Robertson-Aikman, which was actually developed in 1986, during the boom of the Compact Disc—a further testament to SME's long-term commitment to vinyl.

While it is obvious that Michael enjoyed his time with the Model 15A turntable and 309 SPD tonearm, there was mention of his past years' experience of a house sound he described as being "somewhat overdamped and thick." A number of years ago, SME did change the specification of the damping fluid used in their suspensions, from a coefficient of viscosity of 25,000 to 12,000. This is the same spec of damping fluid used in the Model 15A's central damping bath (or "cup," as Michael described it), which essentially is not there to arrest speed fluctuations but rather to disperse unwanted resonances in the suspended chassis—a very important feature.

It is comforting to have SME's latest design rated as a complete success as well as an "heirloom product." *Chad Stelly
Acoustic Sounds*

AudioQuest JitterBug

Editor:

In his review of our JitterBug USB filter, Kal Robinson conjectures, "Apparently, the JitterBug applies some kind of filter so that the squarewave's risetime is slightly *increased*—the opposite of what we want if we want to reduce jitter." In fact, however, a filter cannot increase the risetime. Because USB is a differential signal, deviations in the circuit, routing, and cable between the positive and negative differential lines may cause the risetime to slow down. Removing these deviations allows for a more accurate signal as seen by the device. *Gordon Rankin
AudioQuest/Wavelength Audio*

SotM Audio tX-USBhubIN & sCLK-12.0

Editor:

Satisfaction can be had with only the standard tX-USBhub, but combining it with the sCLK clock results in the best sound

It is comforting to have SME's latest design rated as a complete success as well as an "heirloom product."

you've ever wished for. To get more fluent sound, try only the tX-USBhub, or the sCLK combo, with our intelligent mBPS-d2s battery power supply or sPS-1000 linear power supply.

Try building your own server with SotM—we have versatile solutions for your demands based on very high technology. The sCLK series clock specifications are now listed on our website. Please visit www.sotm-audio.com, and Like us on Facebook, too. *May Park
SotM*

JL Audio Fathom f113v2

Editor:

We would like to thank Kal Robinson for his very flattering review of our new Fathom f113v2 subwoofer. The original, v1 Fathoms set new standards for bass quality and output in both music and theater systems. They were a tough act to follow.

Building on a great foundation, the v2 Fathoms include more power, newly refined woofers, completely new low-level circuitry, a powerful DSP engine, and our truly one-touch Digital ARO. All of these improvements led to Kal's remarkable statement: "The v2's improvement over the v1 was the complete disappearance of the subwoofer from my conscious awareness." It is gratifying to think that a subwoofer using a 13.5" driver and a 3kW amp can be so powerful yet unobtrusive.

"Are subwoofers accessories?" Perhaps for some, but once you have experienced a great subwoofer in your own system, it's hard to go back. The v2 Fathoms are handcrafted in the USA by people who love good music and great bass. Audio is our passion, and we love sharing it with our customers. Thanks again, Kal, for your kind words. *Brett Hanes
Senior Research Engineer
JL Audio*

"If you could significantly improve the sound of your audio system for under \$30, would you do it?"

SOME AUDIOPHILES BELIEVE that acquiring a particular audio component will move their system to a much higher level of performance. But should that be the next step?

The reason I ask

Hello. My name is Jim Smith. You may know me from a few years ago when I imported Avantgarde Acoustic loudspeakers, as well as Audiopax and Zanden. And you may have read my booklet, *31 Secrets to Better Sound*. Over 15,000 audiophiles received it. Hundreds wrote or called to thank me for the big improvement in their systems.

During that time, I visited numerous audiophiles and listened to their systems. In all of those visits, I never encountered *one system* that was performing anywhere near its potential! I know that there must be some, but I certainly never encountered any.

Is it OK to tell the truth?

Few of those systems were performing at even *half* of the performance of which they were capable! And yet, the common denominator among their owners was the question, "What about upgrading to the (current rave) XYZ component?" Clearly, they thought that buying a new component—amplifier, CD player, etc.—was the path to audio nirvana.

But their priorities were misplaced. There was no need to spend another dime on components until they had gotten their system optimized to be able to "play the room."

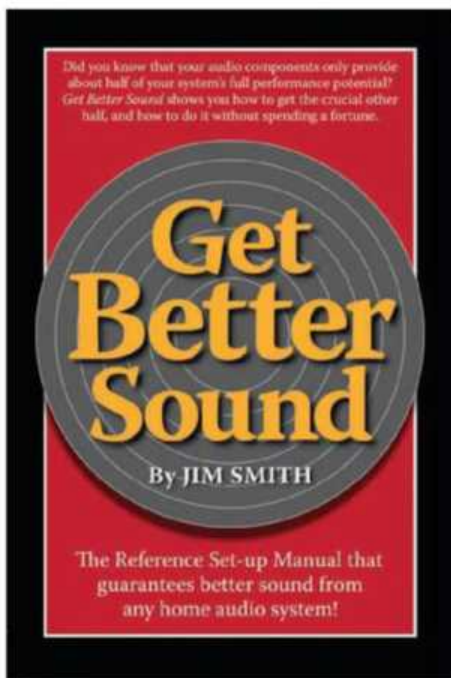
Throwing money out of the window

Let's face it. Buying a new component without getting the performance that you ought to get from it is about the same as throwing money out of the window!

Most of the press reviews have commented very favorably on this aspect (actual *rewards* from an investment) that comes with your purchase of *Get Better Sound*. The reviewers get it, and so can you!

"...Jim's book is one monster shortcut for the rest of us...if we're serious about this business of better sound..."

—Srajan Ebaen, Publisher, *6moons.com*



"Get Better Sound is the cheapest good tweak you can buy for your system. True—and I'm not bashful about saying it. It also has the potential to be among the best system investments you can make, period..."

—Art Dudley, *Stereophile*

Disagree slightly

I really appreciate Srajan's recent comments about *Get Better Sound*. However, I think of the manual not so much as a *shortcut*, but as a crucial—and highly affordable—*next step* to get better sound from any system.

My goal is to show you how to greatly improve your sound, and how to do it without spending a fortune. Plus, when you do make a purchase, you'll be confident that you've selected the very best component. The *202 tips* in the *GBS* manual have provided the highest levels of performance in audio systems around the world—in systems just like yours.

No more secrets

Now you can use the same techniques that I used to win those "Best Sound of Show" press comments and to receive continuing acclaim from my personal clients for over 35 years.

For much more information, including how to order your copy of *Get Better Sound*, visit www.getbetersound.com. E-mail me

at jim@getbetersound.com, or call me at 770-777-2095.

Best regards,

Jim Smith

For info on more *Get Better Sound* services, visit www.getbetersound.com

Get Better Sound: Reference Set-up Manual, DVD, Quarter Notes, StraightTalk, RoomPlay™ Custom Voicing

Internet: www.getbetersound.com • Phone: 770-777-2095 • E-mail: jim@getbetersound.com

CONTINUED FROM PAGE 101

(Where do I get these ideas?) Compared with my Sony SCD-777, the Audio Notes made the horns in Bruckner's Symphony 5, performed by Lovro von Matacic and the Czech Philharmonic (CD, JVC JM-XR24203), so much more listenable that the difference made me laugh out loud. Through the British combo, the brasses in the first movement were richly colored and realistically blatty—but the latter quality didn't come at the expense of my nervous system, as is usually the case. The Eroica Quartet's recording of Mendelssohn's String Quartet 2 (CD, Harmonia Mundi HMU 907245) had sensationally good touch and tone, and the Audio Notes allowed the quartet a much larger sense of scale than did an AIFF file ripped from the same CD and played through my computer-music system.

My best experience with the Audio Note duo? I can narrow it down to two. First was when I played the Beatles' *The Complete Rooftop Concert* (Yellow Dog YDCD015), a bootleg from a now-defunct Italian label that contains every moment of audio from the group's famously impromptu live performance of January 30, 1969. The recording begins in medias res—a jumble of incidental sounds and unidentified voices (the first voice one hears is that of a technician shouting "All cameras live!")—and although it's a bit rough, through good gear it succeeds in putting across a mood of excitement and jubilation. The Audio Notes let me hear it that way better than any other digital source component I've tried.

The other pinnacle: the sounds of John Coltrane's tenor saxophone and Wilbur Ware's double bass—and, of course, Thelonious Monk's piano—in "Monk's Mood," from *Thelonious Himself* (CD, Riverside/JVC VICJ-60170). That bass had

such a believable sense of touch, especially from Ware's second entrance to the end; and the presence of Coltrane's sax, front and center, was spellbinding; tons of tone, all around.

Conclusions

I don't know what John Atkinson will find when he measures the Audio Notes' performance, but I can make a good guess. My previous experience with the company's digital source components suggests that the DAC 2.1x Signature, in particular, may generate distortion products of which other, more technologically up-to-date digital products are comparatively free.

I would also guess that Audio Note will take this in stride. They make no secret of the fact that their approach to digital audio is technologically out of step with almost everyone else's—or of their belief that their approach results in products of superior musicality, whatever else they do or don't accomplish.

The question of whether the sound of the Audio Notes should be praised as being true to the essence of music, or blamed for trading in pleasing distortions, will never be answered to the satisfaction of all—at least not in a 2800-word product review. What I can say for sure is that the musical strengths of the CDT One/II CD transport and DAC 2.1x Signature DAC are incontrovertible: With the possible exceptions of the mighty Naim CD555 and Audio Note's own CD-4.1x, I have never heard a CD player that beats this combination in the ability to *involve* me in the magic of notes and rhythms, or that presents lines of notes in such a musical and attention-grabbing manner. Vigorously recommended. ■

SON OF A GUN

There is no mistaking the lineage of the conrad-johnson ET5 line-stage.

- It closely mimics the circuitry and parts quality of conrad-johnson's big gun - the GAT preamplifier. Same zero-feedback audio circuit, though without the dual-mono layout. Same regulated power supply circuit, but shared between the channels. Same CJD capacitors, though less total capacitance. Same precision metal foil resistors. The result - a strong family resemblance in sonic character that just sounds right, making the ET5 a bargain at half the price of the GAT.

conrad-johnson It just sounds right.

2800K Dorr Ave • Fairfax, VA 22031 • phone: 703-698-8581, fax: 703-560-5360 • www.conradjohnson.com

DEALERS' SHOWCASE

ADVERTISING




**If your vinyl were colors
they'd sound like this**

2012 **S** **stereophile**
Product of the Year

Ultra SYSTEMS

215-862-6570
ultra@UltraSystem.com



VooDoo CABLE™

THE ART OF HIGH RESOLUTION AUDIO

2015
the absolute sound
Editors' Choice Awards

*"Balanced and immersive
big-buck performance for
half the price of the Big Boys."
- Neil Gader, TAS #245*

**AVAILABLE AT
THE CABLE COMPANY
800.328.9973
Cable@TheCableCo.Com**

MANUFACTURERS' SHOWCASE

ADVERTISING

USED.CABLE.COM
UsedCable.com
USED.CABLE.COM
UsedCable.com
USED.CABLE.COM
UsedCable.com

**The BEST way
to buy used cables.**

We buy cables. We sell cables. Free good advice.
One year warranty – 30 day exchange.

**CABLE
COMPANY**

usedcable@usedcable.com | 800.328.9973
"A Cable Company Joint"



myowncover
upload - design - order



Looking for a personalized gift for almost any occasion?
My Own Cover magazine covers are perfect for birthday gifts, holiday gifts, corporate recognitions, or celebrating a milestone. Each magazine cover is as unique as the person on the cover.



- Upload your own photos
- Design great personalized covers
- Order prints to share or give as gifts

Create your own magazine cover and be a star.
www.myowncover.com



Please visit our showroom in Orange County, CA for an audition



JoLida B&K James
REL Tara Labs Sunfire
MIT Richard Gray's

www.DMC-ELECTRONICS.com (714)728-8645 **Best Prices!**

AUDIO ART, est. 1976 – Edge-of-the-art audio components dedicated to serving music. Aesthetix, Audience, Avalon, Ayre, Benz, Cardas, Clearaudio, Hegel, Jeff Rowland, Martin Logan, Music Hall, Pro-Ject Series, Rega, Shunyata, SME, Sonus Faber, Spendor, Vandersteen. (804) 558-5300, AudioArtUSA@aol.com, Richmond, VA.

**LOOKS WEIRD
FIXES WARPED RECORDS**



www.vinylflat.com
469-426-8554

AUDIOCLASSICS.COM – Buys / Sells / Trades / Repairs - Appraises New, Used & Vintage McIntosh, Marantz, Tannoy, JBL, Levinson and other High End audio equipment. **3501 Vestal Road, Vestal, NY 13850 (800) 521-2854**

SALT LAKE CITY AREA – Aesthetix, AMG, Audio Research, Clearaudio, Dynavector, EAT, Esoteric, Exposure, Harbeth, Kimber, Marantz, Ortofon, Plinius, Primare, REL, Rogue, Shunyata, Vienna Acoustics, VPI, and more! (801) 647-8583 or visit www.arisaudio.com

LONG ISLAND, NEW YORK – Audience, Audio Physic, Audio Desk, Audioquest, Avalon Acoustics, Berkeley Audio Design, Bryston, Cardas, Conrad-Johnson, Dali, Esoteric, Jeff Rowland, Hegel, Lyra, Martin-Logan, Oppo, Oracle Audio, Ortofon, Purist Audio Design, Plinius, Siltech, SME, Stax, Symposium Acoustics, Tannoy Prestige, Totem, VPI, Wireworld and many more. Large selection of fine preowned gear, quality trades welcome, analog guru on board. **New York Sound & Vision (631) 321-8969** or visit www.newyorksoundandvision.com



STEREOPHILE ADVERTISER INDEX

Acoustic Sounds	12-13, 58
Apogee	79
Astell&Kern	96
Audeze	69, 71
Audio Advisor	27, 54, 137
Audio Plus Services	C4
Audio Research	112
Audio Skies	129
AudioQuest	108
Aurender	34
AXPONA	52
Bel Canto	72
Bluesound	24
Bricasti Design	110
Brinkmann USA	43
Brooks Berdan LTD	90
Bowers & Wilkins	44
Cable Company	16-17, 150
California Audio Technology	40
Channel D	144
Classé Audio	142

Conrad-Johnson	149
Crystal Cable	C3
David Lewis Audio	146
dCS	14
Devialet	36-37
Dynaudio	122
Eclipse TD	114
Elite Audio Video Distribution	91
Elusive Disc	22-23, 138
Emotiva Audio	82
Fidelis Audio	127
Furutech	91
GamuT	129
Get Better Sound	148
Golden Ear Technology	4, 6
GTT AV	74-75
HDtracks	136
Innovative Audio	126
Joseph Audio	133
JS Audio	134
Katli Audio	129
KEF	106
Kevro Monitor Audio	49
Kimber Kable	118

Lamm Industries	50
Legacy Audio	76
Lindemann Audiotechnik	32
Mark Levinson	98
MartinLogan	130
MBL North America, Inc.	8
Morrow Audio	87
Music Direct	30-31, 66, 144
Musical Surroundings	120
Needle Doctor	9, 60-61, 62-63, 102-103, 104-105
On A Higher Note	114
Oppo Digital	92
Ortofon	115, 135
Paradigm	C2
Paragon Sight & Sound	137
Parts Express	146
Pass Laboratories	10
PrimaLuna	20
Radial Engineering	46-47
Revel	18
Rogers High Fidelity	53
Rogue Audio	35
Rotel	132

Schiit Audio	80
Shunyata Research	100
Siltech	94
Sound Organisation	116
Spendor Audio	26
Synergistic Research	124
Technics	56
T.H.E. Show	128
Ultra Systems	150
Upscale Audio	28
usedcable.com	150
VAC	84
Vandersteen Audio	110
VooDoo Cable	150
VPI Industries	88
Wireworld	140
YG Acoustics	38

THE AD INDEX IS PROVIDED AS A COURTESY. THE PUBLISHER IS NOT LIABLE FOR INCORRECT INFORMATION OR EXCLUDED LISTINGS. ADVERTISERS SHOULD CONTACT THEIR SALES REPRESENTATIVE TO CORRECT OR UPDATE A LISTING.

david michael audio



*Representing The World's Finest
Audio Products*

Accuphase, Aesthetix, Air Tight,
Aurender, Bel Canto, Bricasti,
Constellation, Devialet, Focal,
Harbeth, Hegel, JL Audio, Joseph
Audio, Luxman, Magico, MIT, MSB,
Naim, Nordost, Ortofon, Phasemation,
Raidho, Rega, Rockport, Shelter,
Shunyata, Soulution, SoundSmith,
Stillpoints, VAC, Vienna, Vivid, VPI

586.244.8479

info@davidmichaelaudio.com

www.davidmichaelaudio.com

Sound Anchor

Hi- Performance
Monitor Stands

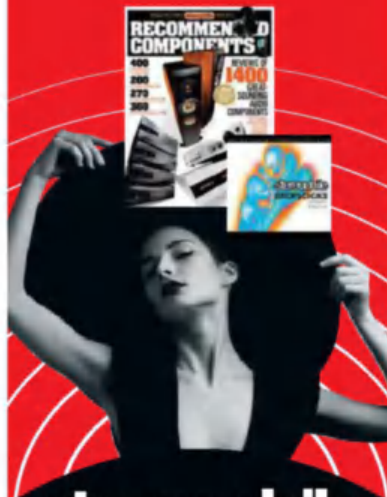


Custom Sized
Single Post, 3 Post, 4 Post
Adjustable and Motorized
Models

www.soundanchors.com
321 724 1237

AUDIOPHILE ESSENTIALS

Audiophile Essentials Editor CD package includes
Recommended Component Collector's Edition
Editor's Choice CD - only \$15.



stereophile

shop.stereophile.com
YOUR AUDIO AUTHORITY

High End Performance,
Real World Prices.

audio Artcable
CONNECTING YOU WITH THE MUSIC



Recommended Component
STEREOPHILE 2014
Writer's Choice Award
POSITIVE FEEDBACK ONLINE
Exceptional Value Award
TONE AUDIO
Editor's Choice Award
STEREOTIMES.COM

www.audioartcable.com
619-255-6451

Hear the new
Hana line
of cartridges
from Japan



MOCKINGBIRD
DISTRIBUTION

214.668.2509
MockingbirdDistribution.com

audioquest.

Authorized Audioquest Dealer Since 1980

Current Audioquest product line
available plus many specials
such as:

- AC12 Power Cord originally \$257 now \$99
- Silver Extreme interconnects with Solid FPS silver originally \$400 now \$99.95 pair
- Coral/CQ interconnects now only \$99 pair
- GBC Deluxe Hyperlitz speaker cable now only \$139.95 pair
- Closeouts on Nordost flatline cables

We also carry Music Hall, Epos,
Creek, Nitty Gritty and more!

HCM Audio

Secure online ordering

530-891-8326

www.HCMaudio.com

"The Audience cable seemingly does it all; it is convincingly superior in every sonic criterion".
Robert Harley - July/Aug '15 - Issue 254
the audiophile magazine

There is more to it than 1s and 0s!



2015 Editors' Choice Awards

Audience Au24 SE USB cable

audience

audience-av.com (760) 471-0202 (800) 565-4390

audio revelation
MUSICAL TRUTH



Ask us how they sound!

Antipodes - Audio Desk - Aurender - Berkeley - Bricasti
Bryston - Constellation - Devialet - Dynavector - EAT - KEF
Kiseki - Lumin - Lyra - Magico - NuPrime - Origin Live - Ortofon
Plinius - Primare - Proac - Reed - Sota - Sutherland - Tannoy
VAC - VPI - Well Tempered - Wheset - Zesto *and more!*

760.434.2625 (S. CA)
AudioRevelation.com | jay@audiorevelation.com



Auditorium 23 Cinema Hommage Loudspeaker

DON BETTER AUDIO

Exclusive Mid-West Dealer for:
Auditorium 23, Acoustic Plan, EMT, Shindo,
Leben, Line Magnetic, Lignolab,
Well Tempered Labs, and much more.

Phone: (216) 375-1393
Email: info@donbetteraudio.com
www.DonBetterAudio.com

We Have *Solutions*



Rhythm Platforms™
Vibration Management On Display

Allentown, PA

BEK HiFi

Klaudio • Hegel • darTZeel • Rogue
Harbeth • Evolution Acoustics
Wharfedale • Sonus Faber • Avid
Well Tempered • Master & Dynamic
Star Sound Tech and many more...

610-351-0764
www.BEKhifi.com



**You can build great sound
with Preamp & Power Amp Kits
by Akitika**

Build the **PR-101** preamp.
Add the features you want.
Control the volume, balance, and select
the source from the
best seat in the house.

Build the **GT-101** power amplifier.
Drive your speakers with 60 WPC
from a fully regulated power supply
for the best possible sound.

**Start building your
stereo system today.**
For more information, go to
www.akitika.com

Akitika



"Upgrade Your Musical Experience"

Harbeth, Acoustic Signature, VAC, LFD,
Penaudio, Primare, VTL, Unison,
Wilson Audio, Naim, Sutherland,
Dan D'Agostino, Stein Music,
Tellurium Q, Rega, Shunyata, CH Precision,
Stenheim, BAT, Opera Loudspeakers,
Bricasti, Palmer, Metronome, Pass Labs,
REL Acoustics, JL Audio, Stirling

Trade Ins • Consignment • In Home Consultations

fidelis 
MUSIC FOR LIFE

www.fidelisav.com • info@fidelisav.com
603-880-HIFI (4434)

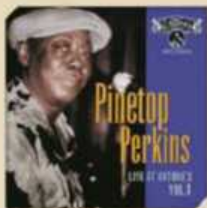
AURAL BY ROBERT BAIRD ROBERT

Big Boss Man

In writing this month's feature on Steady Rollin' Bob Margolin, I was once again confronted with the problems that haunt the blues ca 2015. After its final heyday in the 1960's, the blues has become a niche music, if not a museum piece. With nearly all of its original practitioners gone, catching a blues gig today means, more often than not, watching a bunch of guys who look just like their audience—soft, middle-aged and white—playing “Sweet Home Chicago.” Because the money to be made playing blues is insultingly small and the talent pool is shallow, most new blues records today [Margolin's *My Road* excepted] are unsurprising, by-rote, comfort-food tunes in an increasingly stale traditional form.

But once, back when the blues had life, it attracted a devoted brand of loyal fan, none more possessed than Clifford Antone. Back in 1975, a club opened in Austin, Texas, that weren't no usual blues bar. Its owner could often be found standing off to the side of the stage, watching the show with childlike glee. Over the years, such legends as Muddy Waters, John Lee Hooker, and B.B. King performed there. A native of Port Arthur, on the Texas Gulf Coast, Antone had moved to Austin in the late 1960s. He opened his club, Antone's, on E. Sixth Street, in the heart of Austin's downtown entertainment strip. In 1987 this self-professed blues nut founded the label Antone's Records, and opened a record store across from the club's third location, on Guadalupe Street, past The Drag. A later downtown incarnation of Antone's, at Fifth Street and Lavaca, lasted until 2012. Along the way, Antone had several brushes with the law. According to his *New York Times* obituary, he served two prison terms: one in the 1980s, for possession of marijuana; and another, from 2000 to 2002, for dealing more than 9000 lbs of the drug and laundering money. After the first conviction, he had to give up ownership of the club, which was then run by a board of directors headed by Susan Antone. Now, after several false starts, a new team of investors, including Susan is reputedly going to open a new Antone's on Fifth Street, within blocks of the club's original venue. A 2004 documentary, *Antone's: Home of the Blues*, is also now available on DVD.

Antone's recorded legacy—he died at age 56, in 2006—is now being reissued for the first time by New West Records, who bought the assets of Antone's Records' eventual owner, the bankrupt Texas Music Group. Other blues and roots titles originally released on the Watermelon and Lone Star Music labels, are also part of the TMG deal. The first Antone's reissues, on CD and LP, are two albums from James Cotton, *Mighty Long Time* and *Live at Antone's Nightclub*, and two by Pinetop Perkins, who figures in the Margolin feature in this issue: *Live at Antone's Vol.1* and *Pinetop's Boogie Woogie*.



I've listened to all four albums in both formats and they sound very much like the originals, which always seemed simply and naturally recorded, with good balance and in the studio recordings, a minimum of effects, compression, or overdubbing—fine examples of the come-in-and-cut-it school of recording.

“The tape library is in pretty good shape,” Tommy Robinson of New West told me in a recent

e-mail. “A lot of what we have are mix reels but we have a decent amount of master reels as well. A lot of these titles came out in the mid to late 80's so we have a lot of DAT masters. We currently house all of these masters and catalog in our Athens [Georgia] office, but we're in the process of transferring the entire

catalog to a facility in Nashville.

“Jim Wilson remastered the titles for CD, LP and standard digital (MP3) and 24/96 hi res digital. He remastered from 1/2" and 1" reels on *Pinetop Live* and *James Cotton Live*, but he had to use DATs for *Mighty Long Time* and *Boogie Woogie*. United Record Pressing in Nashville is manufacturing our vinyl. They are all 180g virgin vinyl and come in a hand assembled die cut, leatherette textured, embossed logo LP jacket.”

As for the future, two releases from the Watermelon catalog, Alejandro Escovedo's *Gravity* and *Thirteen Years*, will be released for the first time on LP in time for Record Store Day 2016: April 16. No word yet on when gems from the Antone's catalog like Jimmy Rogers *Ludella*, Lou Ann Barton's *Read My Lips*, or the Marcia Ball, Lou Ann Barton, Angela Strehli project, *Dreams Come True* will again be available.

The ultimate soft touch for musicians, Antone was a sweet soul with an undying passion for the music. His office, filled with guitars on stands, was a wonderland. His slow, South Texas drawl was unforgettable. One night many years ago, during a South by Southwest Festival in Austin, *Stereophile* editor John Atkinson and our late managing editor, the much-missed Debbie Starr, and I walked into Guero's Taco Bar, on S. Congress Avenue and there, working as a greeter as part of his parole, was a much-humbled but still-gracious Clifford Antone. Broke my heart to see it. New West deserves a nod for bringing the records he loved and was so proud of back into print. ■

Music Editor Robert Baird (RBaird@enthusiastnetwork.com) finds all this talk of anyone having too many records patently absurd.

—CLIFFORD ANTONE
2006, WWW.AUSTINDAZE.COM



ARABESQUE
miniSSIMO



"This important speaker deserves the highest recommendation."

Alan Sircom, Hifi + December 2014

"the Minissimos combine so many virtues– sweet sound, ease of use, gorgeous looks, a diminutive presence – that it's impossible not to smile when you see and hear them..."

Ken Kessler, Hifi News April 2015

"A small speaker that plays big."

Andrew Quint, The Absolute Sound October 2015



For more information about Crystal Cable's highend cables and the Arabesque loudspeaker range visit:
www.crystalcable.com www.facebook.com/CrystalCable.IAH

Distributed in the USA by Audio Plus Services 800.663.9353 www.audioplusservices.com
Distributed in Canada by Plurison 866.271.5689 www.plurison.com



BUILT TO LAST



Naim Statement
746 W/channel
(1 horsepower)
\$240,000

Tradition. Longevity. While many audio brands claim these attributes, very few actually follow through with them. Buying a **Naim product** is an investment in many years of incredible musical experiences. It's a choice to make music a central part of your life.



MU-SO by NAIM
COMPLETE WIRELESS MUSIC SYSTEM
\$1,499



NAC-N 272
STREAMING PREAMPLIFIER
\$5,995



NAP DR 200-250-300-500
POWER AMPLIFIERS
\$3,995 to \$33,995